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CANADA

MEDICAL JOURNAL

AND

Monthly Record

OF

MEDICAL AND SURGICAL SCIENCE.

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VOL. VII.

(1870/71)

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MONTREAL:

DAWSON BROTHERS, Nos. 159 AND 161 ST. JAMES STREET.

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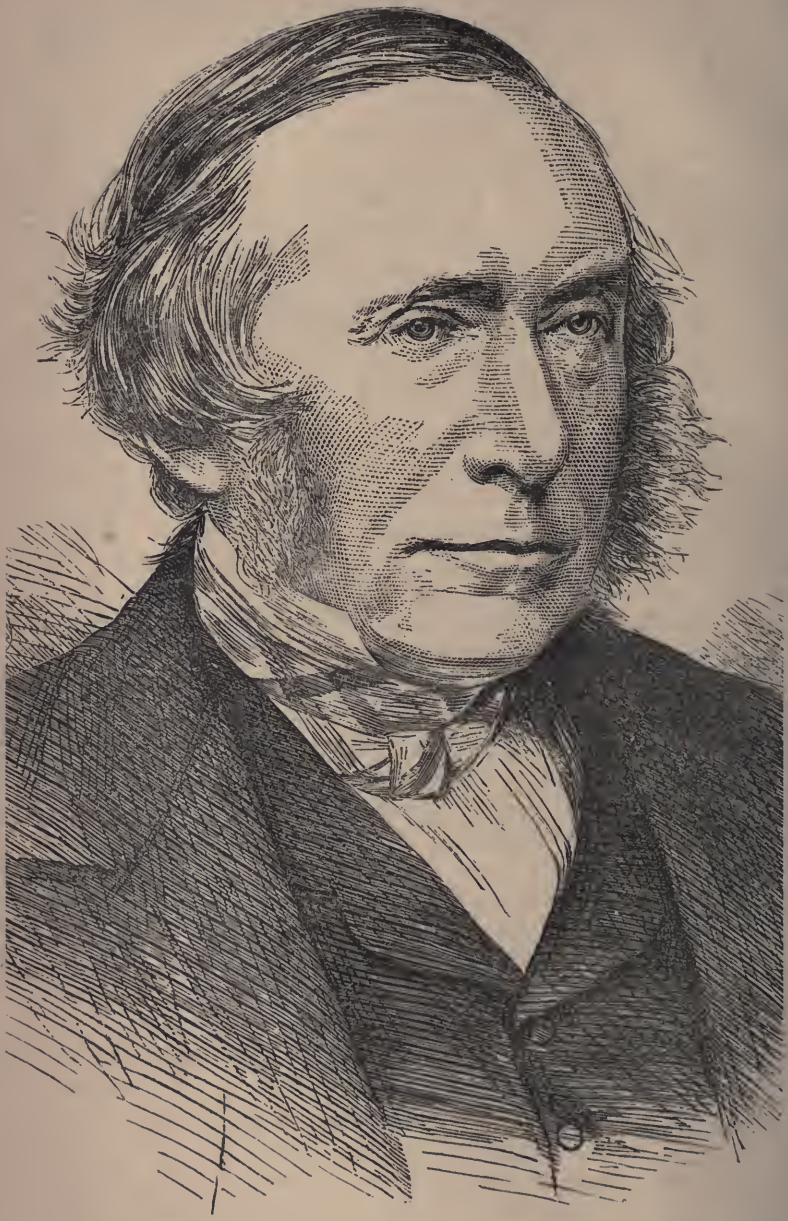

James Syme, F.R.S.E., D.C.L., &c.

CANADA
MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Case of Excision of the Tongue. By GEORGE E. FENWICK, M.D., Prof. Clinical Surgery, McGill University, reported by George Ross, A.M., M.D., House Surgeon, Montreal General Hospital.

William McDowell, *æt.* 59, was admitted into the Montreal General Hospital on the 17th November, 1869, suffering from cancer of the tongue.

Beneath the anterior third of the lower surface of the tongue is found a sort of fissure with edges which seem to overlap the parts beneath—about 1 inch in length, extending for that distance directly backwards from the edge of the frænum, and, when the organ is raised up, ¼ inch in width. By the side of and above this are three or four holes sufficiently large to admit a pea, exposing an unhealthy surface beneath. Along the floor of the fissure is a warty-looking growth, which projects forwards and has a carunculated surface, bright red in colour—in fact just the same here as the rest of the mucous membrane: no sloughy or foul appearance of any part of the sore. There has been no discharge from it at any time, nor any foul odour; the mass itself, as well as the edges, feel very hard and resisting: the hardness can be felt extending to at least the middle of the tongue itself—as far forwards as the frænum, and backwards as much as ¼ inch beyond the posterior extremity of the fissure, where it terminates by a well marked margin. The whole floor of the mouth on that side has the same hard feel and is nodulated, but is movable and free from adhesion to the periosteum of the lower jaw-bone. He suffers considerable pain of a distinctly lancinating character in the tumor, and shooting up through the ear and head. The pain only began last August, but lately has markedly increased; there is no enlargement of any of the lymphatic or secreting glands in the neighbourhood.

History.—Three years ago he noticed a small lump about the size of a pea on the under surface of the tongue on the right side, about the centre of the organ; this tumor has kept growing ever since, at first very slowly, since about August last, quite rapidly. He has always been a very temperate man and has enjoyed excellent health: knows of no instance of cancer of any kind in his family; has smoked, but not excessively, and not at all lately.

Operation.—On Saturday, 20th November, the patient having been fully anæsthetized, Dr. Fenwick proceeded to remove the tongue in the following manner. He was assisted by Dr. Drake, Prof. Clinical Medicine, McGill University, and there were also present the members of the Hospital medical staff.

An incision was made through the entire thickness of the lower lip in the mesian line, extending downwards as far as the Hyoid bone: the right lower central incisor was then extracted, and the jaw divided at the symphysis by a Hey's saw: the tongue was transfixed by a strong double cord, and drawn upwards by Dr. Drake. The attachments of all the central muscles of the right side to the jaw-bone were then cut through, and the mucous membrane of the floor of the mouth on the same side entirely detached from the bone, thus completely baring the mylo-hyoid muscle. The same was now done on the left side, except that the attachment of the genio-hyoid was left, and the separation of the mucous membrane was not quite to the same extent. By this time there was pretty free hæmorrhage from various divided branches, and whilst performing this last mentioned step of the operation the left lingual artery was divided and spouted freely, and had to be temporarily compressed. The chain of the *écraseur* was now passed fairly beneath the diseased mass, pressed back close to the epiglottis and then drawn tight; by this means the spouting lingual was quite controlled. The process of separation was then begun, 30 seconds being allowed between each click of the instrument. In 19½ minutes the entire structures had been cut through, and the tongue was withdrawn from the mouth by gentle traction on the transfixing cord. No hæmorrhage of any consequence followed, the slight bleeding which took place being readily checked by the application of ice for a few minutes. During the whole procedure he was perfectly insensible, the action having been begun by chloroform and continued by ether. Pulse at the close of the operation 80 per minute and full; two holes were now bored with a small brad-awl through the jaw-bone about the middle, near the edges of the division, and a pliable annealed iron wire having been passed through these, the two opposed surfaces were drawn closely and accurately together by twisting up the wire; two teeth on each side were also firmly

wired together. The incision through the integuments was fastened by eight interrupted wire sutures, and some strips of sticking plaster placed directly across the front of the chin and obliquely beneath the same after the manner of a four-tailed bandage, the better to hold the parts in apposition. He was put to bed and directed to have small pieces of ice put into the mouth frequently. The difficulty of swallowing was now very great; he would take a large quantity of fluid into the mouth at a time, and after a few violent efforts to swallow it, reject nearly, if not quite, the whole of it.—11 p.m. comfortable; no bleeding; has slept some; pulse 86.

21*st Nov.*—Slept well; no pain; pulse 85; has partaken freely of milk and beef-tea; some, but not great, difficulty of swallowing.

23*rd Nov.*—Doing well, taking fluid nourishment freely and in considerable quantity. Floor of mouth covered with yellowish-grey slough; some fetor from breath. *Ordered* mouth-wash of Acid Carbolic. 1 part, water, 60 parts, to be used frequently.

25*th Nov.*—Slough gradually cleaning and granulations appearing; a four-tailed bandage applied to steady the jaw.

27*th Nov.*—Removed all the stitches, the superficial wound having firmly closed; is allowed to get up and go about, feeling very well in health.

From this date the patient continued uniformly to improve until he left the Hospital on the

13*th Dec.*, when his condition was as follows:—Stump of tongue almost entirely healed, only a small granulating surface, the size of a five cent piece, being left to close; the jaw has united well, but as yet not quite firmly; the line of the teeth quite perfect. He is in good spirits and in excellent health, with a good appetite; there is not a sign of enlargement about any of the maxillary glands. He goes to-day to his own home, a distance of 30 miles.

Further remarks by Dr. Fenwick.—June 20, 1870.—McDowell called upon me to-day, and I found the following to be his condition. The stump of tongue has entirely healed; there is firm union of the symphysis and his speech is quite intelligible. He can masticate freely and is in robust health; he has entirely lost the neuralgic affection of the side of the head from which he had not been free for several months previous to the operation. The lymphatic glands are unaffected. This is the condition in which my patient McDowell was on the 20th June, seven months after the operation. Since that I have heard of him through a friend, who called upon me on the 13th July instant. The report is still more favourable; he has improved in his speech,

so much so as to be able to pronounce words that before were spoken with difficulty; he sent me word that a small piece of bone had exfoliated, and with it a piece of wire, which, I presume, must be the wire suture that was used in bringing the divided surfaces of the symphysis together.

This is the third case in which I have excised the tongue for epithelioma; in the other two the operation as proposed by the late Mr. Nunnelly was adopted; in this, however, in consequence of the greater extent of the disease, as the floor of the mouth was engaged, I followed the suggestion of Mr. Christopher Heath in similar cases, and divided the inferior maxilla at the symphysis, as originated by the late Mr. Syme of Edinburgh.

Being interested in the literature of this operation, I have noticed that in several cases that have been operated on in the London hospitals where the *écraseur* was used, some difficulty was experienced in consequence of hæmorrhage following the severance of the diseased mass. In the three cases reported by me there has been no difficulty of this nature. This I account for from the fact that in my cases the vessels of the part were divided by the *écraseur* transversely, as my assistant on each occasion drew the organ forcibly out of the mouth, directing it upwards. In Regnoli's operation, which I regard as unsurgical, the tongue is drawn downwards, so that the vessels are crushed diagonally, and cannot retract as effectually within their sheath as if otherwise treated. Another objection to Regnoli's method is the severance of all the muscular attachments of the elevators of the os hyoides, and also the muscles antagonistic to the closure of the epiglottis, so that in one instance on record the surgeon had to pass a ligature through the epiglottis to prevent his patient becoming asphyxiated. In a case reported by Mr. Erichsen, where he performed Regnoli's operation, the patient had to be fed with a tube passed into the stomach, as there was perfect inability to swallow, a result which will not occur if the attachments of the muscles which raise the os hyoides in the act of swallowing, are preserved. It appears to me that it is of vital importance to preserve the attachment of these muscles and to avoid the chance of troublesome if not fatal hæmorrhage; the vessels, when the *écraseur* is used, should be divided transversely.

Montreal, Beaver Hall Terrace,
July 26th, 1870.

Case of Popliteal Aneurism successfully treated by Digital compression, under care of J. M. DRAKE, M.D., *Professor of Clinical Medicine, McGill University. Reported by* T. G. RODDICK, M.D., Assistant House Surgeon, Montreal General Hospital.

Edward Gould, æt. 33, for ten years a soldier, at present a marble cutter, was admitted on the 21st May, 1870, into the Montreal General Hospital suffering from Popliteal Aneurism.

He gives the following history of his ailment:—While engaged at his trade on the 27th April, or nearly five weeks before admission, and when in the act of stepping over some blocks of marble in the workshop his left leg slipped, and at the same time he distinctly felt a click under the left knee, which he then paid no further attention to. In about eight days, however, from the time of this trifling accident a slight pain commenced in the calf of the left leg, which increased until in the third week he was obliged to leave off work and seek medical advice.

When admitted the leg was œdematous and extremely painful. A tumour uniformly pulsating, of the size of a small hen's egg, could be distinctly felt in the popliteal space over the position of the popliteal artery. It could be handled without causing much uneasiness to the patient, though at times he suffered considerably from neuralgic pains in the leg and foot. The stethoscope elicited a well-marked and loud bruit. His countenance was very pale and anxious-looking, but in every other particular he appeared well-nourished, and in fact a strong, muscular man. He declared that until this trouble he had never been an invalid a single day.

Heart.—A well-marked double bruit was heard over the base of the heart and could be traced in the course of the aorta for some distance down the back. The heart did not appear to be much enlarged; and on applying the hand over the chest a well-marked diastolic thrill was felt. Increased and very forcible pulsation was observed in the course of the abdominal aorta, and on applying the stethoscope a loud systolic bruit could be heard, which was believed to have a different character and origin from that heard over the base of the heart. No enlargement of the aorta could be detected. Visible jerking pulsation was observed in all the superficial vessels.

The pupil of the right eye was observed to be slightly contracted. The patient never suffered from syphilis.

Treatment.—It was decided to have recourse first to *instrumental compression*, so he was immediately placed on his left side, the knee slightly bent and resting on a pillow. Two of Carte's tourniquets

were adapted to the thigh, one about an inch below poupart's ligament, the other over the lower third of the femoral artery. A flannel bandage was applied to the leg as high as the knee, with a compress over the aneurismal sac. The tourniquets were employed alternately and shifted from place to place over the course of the artery as the patient complained of pain. He seldom could bear pressure in one place for a longer time than three hours, and often not an hour. Notwithstanding the greatest care and the most unceasing attention on the part of the surgeons in attendance, sloughs were constantly threatening to form from the pressure, and on the third day one tourniquet had to be dispensed with, and the other could be borne but lightly in one spot. As is recommended, the compression was never carried so far as to completely arrest the pulsation in the sac, but it was difficult to maintain an equable flow of blood on account of the œdematous condition of the limb. On the sixth day the second tourniquet had to be removed, and lead lotion applied to the bruised thigh, and in one place a poultice.

Nothing was done for the aneurism during the succeeding ten days, when Dr. Drake devised the plan of suspending a shot from the ceiling directly over the artery so that the patient himself, with the greatest ease, could control the vessel. This did admirably well while the patient was awake, but, of course, ceased to be effective when he slept, as it had to be kept constantly in position. The shot was removed on the seventh or eighth day, when it was decided to resort to *digital compression.*

The aneurism in the meantime had undoubtedly improved, being now firmer to the touch and not so easily compressed, showing that the walls had become considerably thickened by fibrinous deposit. The œdema in the limb had also by this time disappeared.

Digital Compression.—On the 21st June, at the request of Dr. Drake, the following gentlemen, students of McGill Medical Faculty and at present attending the practice of the Montreal General Hospital, kindly volunteered their services in this trial of digital compression for the cure of aneurism, viz., Messrs. Morrison, Reid, Johnston, Locke, McConkey, Mathieson, Wright, Webb, McLaren, Duncan, Sutcliffe, Walton, Nelson and Gunsolus. It was arranged that they should attend in pairs to be relieved every two hours, and each man to exercise compression for fifteen minutes at a time. The work was begun at 6 p.m., Wednesday, June 21st, each Student being fully instructed as to how to proceed. The patient at times for the first thirty hours suffered most agonizing pain in the tumour and calf of the leg, and had to be given repeated opiates to keep him quiet. After this, however, the pain quickly subsided, and at 9 o'clock Friday morning the pulsation was

found to have entirely ceased, the compression being then in operation thirty-nine hours. It was continued on for thirteen hours longer, making in all fifty-two hours, when it was thought unnecessary to proceed further, a cure having evidently been affected. The most careful examination of the tumour failed to discover the slightest pulsation, though there is very little difference in its size from the first, but as dense and resisting to the feel as a fibrous tumour.

June 24th.—Patient rested well for the past two nights; can move the leg about with the greatest ease; knee, however, stiff and cannot be extended; no pain at any time; health improving; appetite good; thigh tender from the pressure; patient anxious to sit up.

July 1st.—Discharged from hospital, tumour apparently not decreasing in size; no pulsation; health and spirits of patient improving rapidly; ordered to use stimulating liniments and the cold douche to the knee, which continues stiff and slightly bent on the thigh.

July 17th.—Reported himself to-day; is rapidly gaining full use of the leg; looks greatly improved in health; is told that he may resume his work to-morrow.

Case of Acute Tetanus Treated by Hypodermic injection of Morphia. Recovery. By G. L. MacKelcan, M.D., Hamilton, Ont.

I was called to see S. K., aged 19, at 9 p.m. March 12th, 1870 Found the patient with violent tonic spasms, recurring at intervals of a few minutes and bending the body backwards (opisthotonos) at one time and forwards at another (emprosthotonos). The spasms were so violent as to require three or four men to hold him, and even then he could not be prevented from striking against the walls and furniture. The seizure came on quite suddenly, as I was told, while he was sitting on a chair which leant against the wall. His arms went up and his legs stiffened, and he slid, as it were, from off the chair on the floor. He never lost consciousness at any time either before I saw him or afterwards. He complained, when I first saw him of the pain over the region of the ramus of the lower jaw. The patient had his thumb crushed between two heavy stones the day before, and he also complained of the pain in his thumb. Gave Pulv opii grs. iij and Æther Chlor. 3 j quaque horis.

11 p.m. Met Dr. Ridley in consultation, who was of the opinion that it was a case of acute tetanus as he saw him in some of the spasms.

13th, 8 a.m. Has slept from 1 a.m. till 7 a.m., except an occasional slight spasm. Was awaked by a spasm which threw him out of bed

on the floor, his head striking violently. Spasms not so frequent but well marked. Treatment the same.

11 a.m. The spasms of emprosthotonos with complete rigidity well marked and pretty severe. Injected $\frac{1}{3}$ gr. morphia hypodermically and applied ice to the spine.

5 p.m. My father, Dr. MacKelcan, saw the case with me and concurred in the diagnosis of acute tetanus. The spasms were very much less severe and less frequent, so much so that I did not think it necessary to inject again just then. He still complains of the pain in the jaw.

14th, 9 a.m. Spasms slight but still retaining their peculiar character. Injected $\frac{1}{4}$ gr morphia under the skin.

5 p.m. The spasms have ceased altogether, but there is an occasional twitch in the flexor muscles of the fore arm. To continue Æther Chloric.

15th. Convalescent, and there has been no return since.

Poisoning by Carbolic Acid, in a case of Acute Eczema, under care of Dr. Fraser, Professor of Institute of Medicine, McGill University. Reported by T. G. Roddick, M.D., Assistant House Surgeon, Montreal General Hospital.

Thomas Hobbs, æt. 80, was admitted into the Montreal General Hospital under care of Dr. Fraser, on the 18th April, 1870, suffering from Acute Eczema, intense in degree and affecting the whole cutaneous surface. The patient had been troubled with the disease for about five weeks previous to admission, and had been treated for scabies with the ordinary sulphur ointment. The arms, legs and trunk were literally covered with the disease, and it had invaded his scalp for a short distance behind. He was very feeble and indeed had to be assisted in and out of bed.

For the first three or four days after admission, he was ordered Ung. Zinci. to be applied over the diseased surface, twice a day, and in the interim a tepid bath. This plan of treatment had no marked effect on the disease, so on the fifth day the dresser was instructed to apply on lint an ointment containing one part of carbolic acid to four parts of lard, over the arms and thighs, and to cover the whole with oil silk. This application was faithfully made about four o'clock in the afternoon, and at half-past five the nurse reported that the old man was dying. When seen, as he was almost instantly, he was found to be in profound coma, with the pupils firmly contracted; breathing stertorous; pulse weak, quick, and flickering; whole surface of the body livid; extremities cold; large quantity of mucus in bronchial tubes; inability to swallow; pro-

found insensibility. The patients in the same ward had seen him half an hour before, crawl out of bed, and, after sitting on the chair a few moments, fall to the floor apparently in a faint. He was lifted to his bed and taken no further notice of till the nurse gave the alarm.

It was thought that the extensive application of carbolic acid would account for his condition. So accordingly the dressings were instantly thrown off and the part washed thoroughly with soap and water. At the same time sinapisms were applied to his chest and the calves of his legs, and blister to the nape of his neck; brandy was given as freely as it was possible, and a turpentine and castor oil enema. For the first hour his condition improved rapidly, but as soon as the stimulating effect of the brandy and sinapisms had passed off he seemed to lapse into his former condition. The symptoms varied in intensity from time to time, until about ten o'clock, when he vomited freely, and from that time rapidly regained his consciousness and fell almost immediately into a natural sleep.

The odour of carbolic acid in the vomited matters was distinctly perceptible, but unfortunately none of the secretions were tested.

When fully recovered the patient said that a very few minutes after the application of the ointment he experienced a peculiar burning prickling sensation over the whole body, and that although he had the greatest desire to micturate he could not pass a single drop of urine. He had no recollection of getting out of bed, and that he was in a faint when the patients found him on the floor there can be little doubt.

As to the disease it improved with marvellous rapidity, and although nothing was afterwards applied but cod liver oil, he was pronounced cured on the sixteenth day after admission, and has had no recurrence of the disease since.

Dr. Fraser in a few remarks to the students stated that the case is instructive in two respects: 1st. As regards the danger incurred by the extensive application of carbolic acid to the skin, when the cuticle is removed, as it always is in eczema, leaving the cutaneous absorbents and capillaries exposed, through which it is readily absorbed and produces its known depressing effects upon the circulation through the nervous system. These effects have also been occasionally observed to follow its injection into large abscesses. 2nd. As regards its efficiency as a therapeutical remedy in eczema, in which disease, however, judging from its effects in the present case, it should be employed with caution, or to portions only of the diseased surface at a time, and its effects closely watched.

The action of the acid on the urinary organs which has been observed by others was also pointed out, and so was the treatment which succeeded so well in combating its dangerous effects in the present instance.

HOSPITAL REPORTS.

MONTREAL GENERAL HOSPITAL.

Cases in Medicine and Surgery under the care of Dr. D. C. MacCallum.

CASE 1.—*Removal of Deep-seated Malignant Tumor of the Neck.*

Reported by Mr. JOHN H. MATHIESON.

Xavier Venard, æt. 53, was admitted into the Montreal General Hospital on the 7th July, 1870, with a tumor on the right side of the neck, below and behind the angle of the lower jaw. He first noticed it about six months ago, since which time it has been steadily increasing, and is now about the size of a lemon. It is firm in consistence, irregular in outline, and quite movable.

July 8th.—The patient having been put under the influence of chloroform, Dr. MacCallum carried an incision, from a point on a level with the inferior lobe of the ear, vertically downwards for about five inches; a second at right angles to this, over the centre of the tumor, forwards for about two inches. He then reflected the flaps down to the sterno-mastoid muscle, beneath which, and extending forwards into the submaxillary triangle and backwards into the occipital, the tumor was situated. Lying over it was the external jugular vein and some of its branches, the spinal accessory nerve, and some branches of the cervical plexus. These structures were dissected off the surface of the tumor, a few fibres of the sterno-mastoid divided, and all drawn forwards over the tumor and retained there by a blunt hook. Having removed all the superficial attachments the tumor was then turned out from beneath the sterno-mastoid, and carefully separated from its deep attachments by the finger and the handle of the scalpel. While doing this respiration suddenly ceased and the pulsation at the wrist became extinct. Sylvester's ready method of artificial respiration was resorted to, and in a few minutes the suspended functions were restored. The remaining attachments were then separated, and the whole of the tumor removed.

The sheath of the common carotid artery and internal jugular vein was laid bare in removing the tumor, and the pulsation of the artery was visible. There was not an artery wounded. Whilst separating the deep attachments in the submaxillary region, a large vein was lacerated which bled freely. The bleeding was easily controlled by compressing the vein against the inferior maxilla. The wound was washed with carbolic acid lotion (one part up carbolic acid to thirty of water) till oozing ceased, and then the edges were brought together by metallic sutures. A

small compress was applied over the vein which had been lacerated, and the wound dressed with carbolic acid lotion.

The tumor weighed ℥ iij and ʒ v, and when examined microscopically was found to be composed entirely of large, granular, cancer cells. It had not yet involved any of the surrounding structures.

July 10th.—The dressings were changed, and some of the stitches taken out. No pus has formed. There is very little swelling and scarcely any inflammation. Dressed as before with carbolic acid.

July 11th.—The remaining stitches were removed; a drop or two of pus has formed at the point of union of the flaps.

It healed rapidly, and with the formation of very little, not more than a drachm, of pus altogether. On the 19th of July it was entirely healed and on the 21st of July he was discharged.

CASE 2.—*Pleuro-Pneumonia of the Upper Lobe of the Left Lung.* Reported by Mr. KENNETH GUNSOLUS.

Bridget Mullen, aged 15, was admitted on Friday, July 8th, suffering from great prostration and intensely laboured breathing, accompanied by high fever.

She states that she first felt unwell on Sunday, July 3rd, when she was seized with severe shivering. This was followed by weakness, fever, difficult breathing, and cough. She was attended by a physician of this city from that time to the present. Her present condition, July 9th, is as follows: Countenance has a dull and somewhat stupid expression; there is a circumscribed flush over the malar eminences; the tongue is coated and she complains of great thirst; skin is dry and hot, and the thermometer placed in the axilla indicates a temperature of 104°; respirations quick and shallow—48 in the minute; pulse 120; cough frequent and unattended by expectoration. Percussion over the left infra-clavicular region elicits a sound of high pitch and of markedly hard quality, and there is unusual resistance felt by the percussing fingers—these conditions are most marked towards the lower part of this region. Over the same surface there is diffused blowing respiration with a dry crepitant râle at its boundaries. The blowing respiration is also very distinct in the lower scapular region of the left side. Throughout the remaining portion of this lung and the one of the right side, there are heard dry bronchial rhonchi. The voice is modified over the dull part, being quite bronchophonic, but there appears to be no alteration in the vocal fremitus.

Dr. MacCallum ordered two drachms of Liq. Ammon. Acetatis to be given every second hour, and ten grains of Pulv. Ipecac. Comp. at bed time. Turpentine stupes to be applied to the chest. Milk diet, with extras of beef tea, corn starch, and four ounces of wine daily.

July 10. Physical signs much the same, pulse 119, respirations 48, temperature of surface 104.

July 11. General symptoms aggravated, pulse 140, respirations 60, temperature 104¾; slightly delirious. In addition to the physical signs already observed, there is now a distinct friction sound heard over the left infra-clavicular region. Patient complains of great pain and breathing is accompanied with a moan. The supervention of pleurisy is attributed by Dr. MacCallum to the circumstance of the patient's bed being in such a position that she is exposed to a draft of air when the window is kept open for the purpose of ventilation. He ordered her immediate removal to a sheltered position. The Dover's powder at bed time to be stopped, the Liq. Ammon. Acetatis to be continued, and a powder containing ten grains of Hyd. c Cretâ with five grains of Pulv. Ipecac. Comp. to be given every fourth hour. The chest to be cupped.

July 12th. Condition much the same; still delirious; temperature 104°

July 13th. There is a great change for the better since yesterday, pulse 93, respirations 41, temperature 102°, no delirium. Last night she broke out into a profuse perspiration, which still continues. Nurse says she sleeps the greater part of the time. Powder altered to five grains of Hyd. c Cretâ and two grains of pulv. Ipecac. Comp.

July 15th. Continues to improve rapidly. Expression of countenance much more intelligent, pulse 112, respirations 30, temperature 100°. The dullness on percussion is much less, and there is less resistance. The friction sound and diffused blowing respiration have disappeared, and are now replaced by a redux crepitant râle.

July 16th. The perspirations continuing, the Liq. Ammon. Acetatis and the powders are ordered to be discontinued, and the patient placed on the following mixture: ℞ Ext. Senegsæ Fluid ʒ iii, Tinct. Hyos. ʒ iii, Vini Ipecac ʒ i, Spt. Ammon. Arom. ʒ iii, Aquæ *ad* ℥ vi. A tablespoonful to be given every fourth hour.

July 23rd. She is now convalescent. The pulse respiration ratio is natural and the temperature normal; the dullness has disappeared, and the natural respiratory murmur has returned, but it is weaker than that of the right side.

CASE 3.—*Intermittent Fever (Quotidian) treated with large doses of Quinine.* Reported by Mr. JNO. H. MATHIESON.

Anthony Nelson, a sailor, aged 23, was admitted into the Montreal General Hospital on the 5th July, 1870, complaining of fever and ague.

He is a stout, well built man, light complexion. Has previously been very healthy. He was on a trip to Oswego and while there was exposed for several hours during a wet and damp night. Shortly after this he complained of frequent slight chills, alternating with flushes of heat, recurring several times at irregular intervals during the day, and lasting from five to fifteen minutes. He also complained of languor, headache, nausea, and occasional vomiting.

On *July* 1*st* was seized with the first paroxysm—the cold stage lasted about an hour, and the subsequent stages of heat and sweating for several hours more. The paroxysm recurred daily without marked modification until his admission.

July 5*th.*—Pulse 72. Tongue coated with a creamy fur; bowels slightly constipated; urine abundant and pale, slightly acid; skin quite moist; pupils very much dilated; appears dull and languid. Respiration 21 and easy. The spleen is considerably enlarged. He had a paroxysm last night about 9 o'clock p. m. The cold stage lasted for about forty-five minutes; he shook so hard that he declared "he had to hold himself in his bed." The hot and sweating stages continued till about 5 a. m. He sweat very profusely and in the morning his woollen shirt was thoroughly saturated. He has slept nearly all the time since 5 a. m. till now (11 a. m.) and is quite well, excepting a dull, heavy sensation in his head. Ordered the following:

℞ Calomelanos gr. v.
Pulv Jalap gr. xx.

July 6*th.*—Pulse 75. He had a paroxysm last night beginning about 10 p. m., which lasted till between five and six in the morning. The duration of the different stages and the character the same as before. He did not get the powder till this morning, and it has not operated yet.

July 7*th.*—Paroxysm last night at 11 p. m. and continued till about 5 a. m. Examined the spleen again and found it a little larger. It extends chiefly forwards and upwards. The area of dullness 5 + 6 inches. Purged freely yesterday.

Ordered quiniæ sulph: gr. x to be given immediately after the paroxysm in the morning and to be repeated at noon and night.

July 8*th.*—Pulse 70. Pupils less dilated. Tongue cleaner. Paroxysm occurred last night about midnight. He has taken two doses (gr. xx) sulphate of quinine since the paroxysm this morning, a third dose to be given to-night.

July 9*th*,—Pulse 72. Tongue clean. Urine less abundant and still pale. Bowels are regular. He slept soundly last night and there was no return of the paroxysm. Was ordered quin sulph. gr. v. three times a day.

July 10*th.*—Much better. No return of the paroxysm. Got his clothes and is sitting up. Ordered quin sulph. gr. iij night and morning.

July 11*th.*—Examined blood with the miscroscope and found white corpuscles increased in number. Ordered quin sulph. gr. ij every four hours.

July 14*th.*—There has been no paroxysm since, his tongue is clean. Bowels regular. Spleen still enlarged. No symptoms of quinidism. He is somewhat weakened but pulse quite well.—*Discharged.*

Case 4.—*Sciatica, treated by Muriate of Ammonia.* Reported by Mr. James T. S. Webb.

Marianne Fitzgerald, widow, aged 61 years, mother of seven children, was admitted into the Montreal General Hospital, July 6th, 1870.

She says she never enjoyed very good health, always considered herself weak and feeble, and has for many years been liable to bilious attacks every few months.

About seven years ago she had a very severe and prolonged attack of facial neuralgia. She noticed that the pain was always most severe in the morning and became less so towards evening; she took at that time large doses of quinine immediately before the morning paroxism came on but without much relief. Ever since that time she has been visited annually with a similar attack, and always at about the beginning of summer. Five years ago was ill with a swollen knee for which she was cupped and blistered.

She had a fall on the 23d of December last, and fractured her right femur, for which she was admitted into the Montreal General Hospital.

At the time of her present admission to hospital she presented a pale and sickly appearance, and her countenance was expressive of great anxiety and suffering. She complains of most excruciating pains along the course of the sciatic nerve, and can sleep neither day nor night. She is troubled with a peculiar sensation in the head which she describes as if two substances were rubbed together followed soon by a loud noise as if a pistol were fired off close to her ear. She is also suffering a great deal from giddiness and confusion of ideas and weak memory.

July 7th.—Dr. McCallum ordered her to take five minims of Fowler's solution three times daily, which she continued taking for seven days.

July 9th.—Pulse 98, very weak. Did not get any sleep last night; pain in the leg very bad; complains of great dizziness, flashes of light, &c.

July 10th.—Remains about the same as yesterday.

July 11th.—Pulse 100, very weak. Feels a little better to-day; did not sleep last night on account of the pain in the leg.

July 12th.—Slept well last night; pain in the leg less; feels better to-day; still complains of giddiness; appetite somewhat better.

July 14th.—Worse to-day; pain very bad; could not sleep last night on account of the severity of the pain.

Arsenic stopped.

Dr. McCallum ordered her to take fifteen grains of the muriate of ammonia every four hours.

Doing well, pain all gone; says pain entirely left her after taking the second dose of the medicine.

July 16th.—No pain; slept well last night; giddiness all gone; head feels well.

July 18th.—No return of pain; sleeps well every night; pulse improving.

July 26th.—No return of pain; sleeps well; is now going about hospital, quite cheerful; expression of countenance quite altered; says she feels better than for many years.

CORRESPONDENCE.

MEDICAL MATTERS IN HAMILTON, ONTARIO.

(From a Correspondent.)

MEDICAL AND SURGICAL SOCIETY.

The May meeting was held on the fourth of that month.

Dr. Macdonald introduced the subject of Puerpural Fever and Puerpural Peritonitis, by reading reports of several cases that had come under his notice in this city during the spring months.

The cases, with their history, were very instructive and led to an interesting discussion in which all present joined; but as it elicited nothing novel it is omitted. It is to be hoped that Dr. Macdonald's notes may appear in your journal, as they would no doubt, be very acceptable to your now numerous readers in Ontario, if the Dr. could only be induced to publish them.

The July meeting was held on the 6th July, 1870.

The president, Dr. Rosebrugh, in the chair.

Dr. Geo. MacKelcan read the notes of a case of Acute Tetanus, treated by hypodermic injection of morphia with recovery.

Dr. Malloch, made some remarks on a typical case of Acute Tetanus.

Dr. MacKelcan, sen., who saw the case, described it as one of well marked Tetanus.

Dr. Isaac Ryall was pleased to hear of a case of Acute Tetanus, being cured.

Dr. Rosebrugh and others said that as the case was a successful one it should be published. (*See original communications.*)

Dr. Malloch, related a case of embolism of the external iliac artery, producing mortification of the whole limb and death in a short time.

THE HAMILTON CITY HOSPITAL.

This useful institution, although its name might lead one to think that it was intended for Hamiltonians merely, really admits cases from all the surrounding country, and even from the United States. In the summer the number of patients is not so great as in the colder months, but the number under treatment at present is about forty, besides three or four puerpural cases. Although there is no regular "clinical instruction" at this Hospital, it affords to a few students opportunities of study second to none in Ontario, and even in obstetrics there would be no difficulty in getting their certificates of "having attended at least six cases of midwifery," a difficulty which seemed insurmountable even at Toronto, when it was discussed at the Canada Medical Association, and at the Medical Council here. We throw out this hint for the benefit of students who may think of spending a year with one or other of the medical men here, or who may intend joining our "summer school of medicine."

In our Hospital all the new remedies are introduced as soon as they can be procured. The bromides were extensively used and with marked benefit in delirium tremens, and epilepsy; but their place seems now to be taken by chloral (hydrate), and the benefit is very marked.

There are also surgical operations of considerable interest and importance performed at this institution. Thus to go no further back than last month, Dr. Mackintosh, one of the medical men in attendance, performed successfully median lithotomy, and tenotomy, and forcible extension of a knee joint, which had been bent at right angles for about eight years, both patients being now almost well.

Besides these cases in the Hospital there have been several very interesting cases in the city. of functional nervous diseases cured by the use of chloral (hydrate) of some of which you will likely have more extended reports shortly.

Since writing the above, I have just heard of a case of hysterical paralysis of both legs having been cured very rapidly at the Hospital here by Dr. Mullin, assisted by Drs. A. R. Malloch and O'Reilly. The case had been mistaken by some medical men for disease of the spine, and the patient, a girl about 18 years of age, had not got out of

bed for eighteen months without assistance. It was at last decided by these gentlemen and others to try the effects of the cold *douche*. She was accordingly got out of bed and ordered to walk, and on refusing to do so was souced with a bucketful of iced water, a second and a third bucketful were necessary to complete the cure, and then the patient was able to walk across the ward several times, unassisted. She was made to dry herself well and put on her clothing, and on being visited in the afternoon by Dr. O'Reilly, and ordered to get out of bed, she did so pretty smartly.

A Bungled Case of Lithotomy.—Rumors have been rife here for some weeks back of a lithotomy case sadly mismanaged in a town not thirty miles from Hamilton. It would appear that a gentlemen from a distance had placed himself under the care of a surgeon in the town referred to, who, with other two practitioners of the same town, determined to perform *median* lithotomy. The patient having been chloroformed and every thing in readiness, the operating surgeon introduced the knife, but after many ineffectual attempts and poking about in the wound for nearly three hours, they had to leave the case as it was. One can scarcely realize the patient's disappointment when he awoke and found that he had *not* been relieved. Two or three weeks after Dr. Beaumont was summoned from Toronto to complete the operation and succeeded in relieving the patient of four calculi of considerable size. Had these men ever performed the operation even on the dead subject ?

ANALYSIS OF THE ONTARIO MEDICAL REGISTER.

It was stated at the Medical Council here, that there were about 1500 practitioners in Ontario. The register shows only 1177, so that there are thus over 400 men practising medicine in Ontario in defiance of all law, not much less than one-third of the whole. With these facts before us one is tempted to ask, "has our medical legislation been really of any use." And this question is still more forcible when we find a clause in the bill entitling to registration any person who was actually in practice prior to 1st January, 1850, and who shall have attended *one* course of lectures. It seems, however, that this premium to ignorance was only taken advantage of by four worthies, who, no doubt, are a great accession to the regular practitioners of Ontario. Wonder some midwives did not take advantage of the clause as they are certainly *persons*. Of the 1177 registered practitioners of medicine 93 are eclectics and only 55 homœopaths, 5 of the latter being non-residents, 3 being in the United States and 2 in Montreal.

There is also one non-resident "regular."

There are then in Ontario, resident—

Regulars	1028
Eclectics	93
Homœopaths	50
Total	1171

The homœopaths are therefore to the regulars in the proportion of 1 to 20·6 and the eclectics of 1 to 11·5.

Take the population of Ontario as 1,393,089 this gives—

All resident,	Registered practitioners	1 to	1,189.6	of population.
"	Regular "	1 "	1,355.14	"
"	Eclectic "	1 "	14,979.5	"
"	Homœopathic "	1 "	27,861.78	"

It is, then, on account of these 143 men that all the legislative fuss has been made, and in order to give them legal rights and privileges that over 1000 regular practitioners have been insulted. But look at the injustice in another light. The homœopaths and eclectics form more than one-third of the whole council—whereas if they had their just proportion to that of the regular practitioners they should have only one-seventh. That is to say they have ten representatives at present, whereas their just proportion is only four—or two to each side.

How such manifest injustice to the regulars could have been allowed, without some of the leading medical men in Toronto, rousing the whole profession of Ontario to a sense of their wrongs is really marvellous. Of what use are our medical schools if they cannot protect the interests of their graduates?

It is to be hoped that some remedy will soon be found for this anomalous and unjust state of matters, and that when the opportunity offers, the regulars of Ontario will support it *en masse*.

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Surgery.

SEVERE CASE OF TETANUS CURED BY THE EXSECTION OF A NERVE.

BY GEORGE E. FOSTER, M.D.

Springfield Mass.

M. L., aged twenty-four; married, by birth an American, and by occupation a seamstress, bought a pair of shoes July 20th, 1869, and put them on; while walking, she felt a sharp substance pricking the skin of the an erior and inferior aspect of the right heel. She continued to

walk, but with pain, until she stepped from the curbstone to cross the street, when accidentally her whole weight was thrown on to the heel and something was driven into it which caused exquisite pain. She called a carriage which was passing, and rode to her residence. Upon removing the shoe, a shoe-nail was found driven into the heel, the end protruding A shoemaker who lived near was called; he removed it with pinchers, and upon examination found it to be whole and one inch and a quarter in length. The pain subsided and the wound healed, leaving no trace of the injury. No more was thought of it until August 3d, 12 o'clock, when she awoke in the night with chills, stiffness of the limbs and slight twitching of the muscles of the arms. Chafing and hot drinks were resorted to by the family, but without changing the symptoms. At 3 a.m., the family physician was called; at that time, she had spasms of all the limbs, and well-marked trismus, mind clear, pulse full. He tried all the remedies that could be thought of, but she became worse very fast, and at 8 a.m. another physician was called, who pronounced the case hopeless. The doctor in charge was not willing to give up: they sent for me but being out of town I did not see her until 12 m. She was then very weak, spasms constant, trismus well marked, pulse 97 and very feeble, mind perfectly clear. All the known remedies were again tried, but with no better result. She could give no cause for the attack. The physician in attendance, while conversing, accidentally spoke of the accident three weeks before, and the family exhibited the nail, which was whole, but upon examination a slight spot of rust was found near the point. A subcutaneous injection of a solution of the sulphate of atropia was made over the posterior tibial nerve, but without relief. At 4.30 p.m., she being under the influence of ether, I cut down upon and with care removed about two lines of the internal plantar nerve; hot cataplasms of flaxseed, yeast and laudanum, were ordered to be applied once every hour and a half. Pulse one hour after the operation was 45 and fluttering, pupil of right eye fully dilated and of the left contracted, mind wandering. Passed a bad night (no spasms or trismus after the operation); wine whey was given both by the mouth and rectum every hour during the night.

Aug. 4th, 8 a.m.—Mind again clear, pulse 94 but weak, has gained strength, wound suppurating.

5th.—Pulse 85 and good. Beef-tea and wine whey still continued, with toast; wound suppurating freely.

6th.—Every symptom good—still quite weak

10th.—Ordered the wound to be kept open five days.

Jan. 12th, 1870.—She is as well as ever; no spasm of any kind since the operation.—*Boston Medical and Surgical Journal.*

PUNCTURE OF THE KNEE-JOINT IN THE TREATMENT OF SYNOVITIS.

Professor Fayre (*Indian Med. Gazette*), after treating five cases of synovitis, speaks with confidence of simple paracentesis of the joint in the treatment of inflammation, and as he believes it is capable of affording great and rapid relief from pain, as well as of expediting recovery, he has no hesitation in recommending it; but it must be borne in mind that the operation is to be performed with the greatest care, and that every precaution be taken to exclude the air.

NEW TREATMENT OF RICKETS.

Mr. Marsh, of Dublin, has employed forcible straightening of the bones in a case of rickets. The patient was put under chloroform, and the tibiæ, which were curved forwards, were forcibly straightened. The practice seems novel and promising.—*New York Medical Record.*

Medicine.

CHLORAL AS AN HYPNOTIC.

The Physicians and Surgeons of the Royal Infirmary, Edinburgh, after extensive trials with the hydrate of chloral, have arrived at the conclusion that it is a most important and valuable addition to our list of sedatives and hypnotics. It is, they consider, "perhaps the purest hypnotic and sedative we possess, its administration being followed, in most cases, by beneficial results, and comparatively rarely by injurious effects; also, that for these purposes it may be given with advantage in all cases where sleep is abnormally absent, and in diseases or injuries where any excitement or irritation of the nervous system exists. Its advantages as compared with other narcotics, such as opium, seems to be briefly as follows: 1. It is perhaps more speedy and more certain in its action and more prolonged in its effects; 2. It is less dangerous to children; 3. It is followed, as a rule, by no bad effects; the appetite is not impaired; the tongue is not furred; the excretions are not arrested.

"While in the majority of cases the results of chloral are satisfactory, the fact must not be concealed that, occasionally, unpleasant consequences follow its administration. In upwards of fifty observations, when forty grains were given—the progress of all of which we ourselves had an opportunity of following out—in no less than seven the patients were greatly excited, four of them, in addition, being wildly delirious shortly after taking the medicine. This temporary delirium, although somewhat alarming at the time, passed off in all cases in the course of two hours,

accompanied by the most profuse diaphoresis. In this number about a dozen were afflicted with headache more or less severe, which, however, was also transitory.

"Other observers in the Infirmary, after giving chloral largely, have not met with these distressing symptoms—at least, not to so great an extent."—*British Med. Journal*, April 30, 1870.

Dr. J. HUGHES BENNETT states (*Practitioner*, May, 1870) that, in moderate doses, it produces natural sleep; that in a majority of cases it is not a narcotic but pure hypnotic, and that he has not witnessed from it the ill effects so common after the administration of opiates.

Dr. A. M. ADAMS speaks (*Glasgow Med. Journal*, May, 1870) in equally favourable terms of its value as an hypnotic. He says "as an hypnotic in affections of the head and nervous system, it dwarfs every other known remedy of its class, and fills a blank in medicine which has long been felt and deplored."

THERAPEUTIC EFFECTS OF HYDRATE OF CHLORAL IN CEREBRAL DISEASES.

Dr. T. S. CLOUSTEN, Medical Superintendent of the Cumberland and Westmoreland Asylum, thus sums up his experience after having given the hydrate of chloral in forty cases of various forms of *insanity* :—

"1. It has proved a most safe and certain sleep-producer. It seems certain that by it we can compel sleep in any case.

"2. By means of this property, attacks of insanity may probably be warded off in some cases.

"3. Its action in abating and soothing excitement is more uncertain than its sleep-producing power, and lasts a shorter time than that of any signally powerful drug; but it is most valuable in certain cases, especially in some recent and curable ones, where formerly we should have been afraid to give opium. It has no directly curative action; but it evidently could be so employed as to tide over short attacks of insanity, and to prevent certain cases from being sent to lunatic asylums.

"4. Whether it does good or not, it never does harm. In this respect it is the very king of all narcotics.

"5. Its effect on the temperature of the body is variable in different cases, and in the same case at different times; but generally it is to reduce the temperature slightly, taking the average of a number of patients. It differs from opium in this respect, which raises the temperature; but the reduction caused by chloral is not nearly as great in maniacal excitement as that caused by alcohol in large doses.

" 6. It should be given to subdue brain excitement in doses beginning at twenty or thirty grains, repeated from three to five hours. To produce sleep in great excitement, from forty to sixty grains are required, the latter dose not failing in one per cent. of the cases."—*British Medical Journal*, May 7, 1870.

Dr. JOHN B. TUKE, Medical Superintendent of the Fife and Kinros District Asylum has employed chloral with good results in acute mania, asthenic insanity, the insomnia of melancholy, and in chronic cases of insanity in which violent outbursts of excitement occurs. " The advantages of choral," he says over all other hypnotics with which I am acquainted are—

" 1. That it is more uniformly certain in its action.
" 2. That it has no depressing influence.
" 3. That it does not cause constipation.
" 4. That it does not produce nausea.
" 5. That its effects are more lasting.

" I believe it to be the most valuable means of procuring sleep which has yet been introduced into the Pharmacopœia of the asylum physician." —*Lancet*, March 26, 1870.

Mr. SPENCER WELLS stated at a meeting of the Obstetrical Society of London, that in a case of furious maniacal excitement seen by him with Dr. Munro, one thirty-grain dose of chloral was followed by almost immediate calm and afterwards sleep.—*Lancet*, April 2, 1870.

Dr. PLAYFAIR also reported to the same society a case of threatened puerperal mania where the patient had become maniacal after a previous labour and after the present one exhibited the same symptoms which had preceded the previous attack, viz: restlessness, inability to sleep, etc.— Thirty grains of chloral given at bed time produced a long and quiet sleep, and the same dose was repeated every night for a week. Dr. P. has no doubt that this medicine kept off the threatened attack.

A case of puerperal mania was communicated to the Obstetrical Society of Edinburgh by Dr. THOMPSON, who stated that from his observation in that case he looked forward to chloral being of the greatest service in the acute stage of that disease.—*Edin. Med. Journal*, May, 1870.

Mr. R. G. HILL reports (*Med. Times and Gazette*, April 9, 1870) a case of acute mania in a female, in which the usual remedies were tried without benefit, when chloral was given with the happiest effects.

Much additional testimony has been adduced as to the value of the hydrate of chloral in *delirium tremens*. According to the experience the physicians of the Royal Infirmary, Edinburgh, chloral seems in th disease " to be almost a curative agent, as in most cases, notwithstanding

violent excitement or delirium, it produces a sound sleep, from which the patient frequently awakes sane and rational. In doses of forty or sixty grains, repeated every half hour three or four times, a deep and lengthened sleep generally ensues. Although there are several exceptions, many most interesting and remarkable cases might be cited to prove the general rule." —*British Medical Journal*, April 30, 1870.

Mr. MAUNDER has employed it successfully at the London Hospital, in a case of furious delirium tremens in a woman. A drachm dose was given and within half an hour she was fast asleep, all maniacal symptoms being abolished for the time. The dose was repeated with the effect of keeping her quiet, and at the date of the report she seemed quite rational.—*Brit. Med. Journal*, April 2, 1870.

Dr. GEORGE W. BALFOUR has been equally successful with chloral at the Royal Infirmary, Edinburgh. He relates six cases of delirium tremens successfully treated, and says that the cases in his wards "vary from the merely excited fidgety condition, known as the horrors, to the most exaggerated mania, often accompanied by repeated epileptiform convulsions. The cases given are amongst the severer ones treated; the milder ones succumbed more readily to the treatment, one dose being usually sufficient; the general result being to keep the wards almost empty, from the rapidity with which the patients are enabled to be discharged."

Dr. C. A. STIVERS reports (*Pacific Med. and Surg. Journal*, May, 1870) two cases of delirium tremens successfully treated with chloral in the San Francisco Hospital.

THERAPEUTIC NOTE ON CHLORAL.

By Sir J. Y. SIMPSON, Bart., M.D., D.C.L.

Several years ago, when discussing the past history and probable future advances of the Materia Medica, I took occasion, amongst other matters, to observe as follows:

"Our therapeutic means are most probably destined to have early and important additions made to them through other discoveries in chemistry particularly in modern organic chemistry. For there can be little doubt that some of these almost innumerable compounds which organic chemistry is daily adding to its stores will be found to be endowed with marked therapeutic properties, and that we may find in them most powerful and possibly concentrated forms of medicinal agents capable of fulfilling all our principal therapeutic indications—and perhaps with properties superior to the drugs at present used; as an antiperiodic, for example, even more certain than quinine, and yet without its occasional tendency to pro-

duce headache and nervous symptoms; or a narcotic, as important as that most useful of all drugs—opium—and yet without either its direct constipating effects or its indirect tendency to excite subsequent nausea, vomiting, etc."

Chloral C^2 Ch^3 OH, an artificial organic chemical compound, was discovered by Baron Liebig in 1832. Both in its fluid form and when solidified by the addition of a little water into hydrate of chloral, it has been known during the last thirty-seven years chiefly as a chemical curiosity. But lately Dr. Liebreich, of Berlin, has suggested hydrate of chloral as an hypnotic and anæsthetic remedy. I am indebted to the courtesy of Dr. Liebreich for sending me an early specimen of this new drug, and latterly I have used it to a considerable extent in practice. My impression is that, in introducing chloral, Dr. Liebreich has proposed a remedy which will yet prove of immense value in the practice of Medicine, Surgery, and Midwifery.

Hitherto I have principally employed it as an hypnotic and anodyne. In sufficient doses I have found it, as a general law, as sure a producer of sleep and soother of pain as opium or any of its preparations. It is usually swifter in the induction of its narcotism, more tranquil in its action, and more prolonged in its effects than opiates are when taken as hypnotics; but above all, it seems, in a great measure, free from some of the minor drawbacks and disagreeable accompaniments produced by a full and large dose of opium. In this respect it appears to me to fulfil successfully the indications which I predicted in the extract above given, of being a narcotic as powerful, and indeed more powerful, than opium, "and yet without either its direct constipating effects, or its indirect tendency to excite subsequent nausea, vomiting, etc." The sleep induced by a full dose of it steals on without any premonitory symptoms. It is usually deeper, and yet more quiet and calm, than that produced by opium; and it does not leave subsequently the thirst, dry throat and tongue, disturbance of stomach and appetite, and languor of mind as well as body, which most persons unaccustomed to the use of opium commonly feel after a deep and narcotic dose of that drug.

Ever and anon cases are well known to occur in practice in which patients declare their inability to take opium in any form without suffering severely from nausea, faintness, restlessness, and other evil effects. In several such cases I have now used chloral as an hypnotic with perfect success. A patient here at present from New York assures me that the preparations of opium and other vegetable anodynes have always acted upon her as poisons, and without producing their usual hypnotic effects. "Such," she writes me, "being my experience of anodynes, I was

unwilling, as you remember, to take chloral, and hoped nothing whatever from it. It was administered to me in two half-doses [thirty grains each]; the first dose, taken in the day-time, with light in the room and my people walking about, did not put me to sleep, but it soothed and calmed me completely. The second dose, given at night, was followed by nearly four hours of natural and refreshing sleep. I felt neither giddiness nor heaviness on waking, and neither then nor later did I experience any sensation of nausea as after other anodynes."

Two or three weeks ago I had under my care an old patient, a lady of great sensitiveness and intellectual power, from one of the midland counties of England. When last in Edinburgh she was the subject of a slight operation, and twice took a dose of chloral at night to induce rest. She slept under it quietly and refreshingly, far beyond her usual breakfast hour. Opium, henbane, and other anodynes had, when used, generally induced in her disturbed sleep, occasional sleep-talking, and sometimes somnambulism. A few days before coming on this last occasion to Edinburgh, she had a conversation with her mother regarding the kind of monument which they should erect over the grave of her father, who died two or three months since. That same day she had travelled up from Wales, felt ill, and had given to her a dose of henbane towards bedtime, with the hope of producing rest. In the middle of the night her husband was awoke by the ringing of his door-bell, a shower of small stones launched against his bedroom window, and the dog barking within. On rushing down and opening the door he found his wife, whom he believed to be in bed, standing outside. The henbane draught had produced a fit of sleepwalking. After her husband and she had fallen asleep she had risen, dressed herself in her day clothes over her night clothes, removing for that purpose her bonnet and muff out of their special receptacles, and, in the middle of a dark and wet night, had walked off to a distance of two miles. She awoke with her left hand holding her two gloves within her muff, and the right hand grasping the cold iron handle of the inner gate of the churchyard in which her father had recently been buried. After using the chloral she expressed to me great satisfaction at the idea that she had now a medicine which seemed to produce nothing but a tranquil sleep, quite different from the disturbing effects of the narcotics which she had previously taken; and two days ago I saw an order from England at the apothecary's for several doses to be forwarded to her.

Sometimes chloral produces its hypnotic effects when opium, from its long-continued use, has ceased to do so. To a patient who has had daily morphia injected subcutaneously for some years for neuralgia of the side

under the hands of different Practitioners, my assistant, Dr. Bell, gave at my request a drachm dose of chloral. Latterly a grain of morphia has been injected daily with the effect of relieving the pain, but without producing sleep. She swallowed the dose of chloral early in the afternoon, and was asked to lie down in bed. I saw her in a quarter of an hour afterwards deeply asleep; and the lifting of one eyelid to look at the dilated pupil did not awaken her. She awoke out of the slumber free from her neuralgia.

I am not aware of any special contraindications to the employment of chloral when used for somniferous purposes. Even in head and chest affections, where I should have been chary of having recourse to opium as an hypnotic, I have employed chloral with perfect success. The contraindications to opium offered by a tendency to constipation, etc., do not exist against chloral.

Like all other remedies in the Pharmacopœia, it will, no doubt, occacionally fail to produce its desired effect; but as seldom so, perhaps, as most of them. In a few instances the sleep induced by it has been dreamy and hysterical, particularly when the patient was not kept in a state of perfect quietude; but these are rare exceptions to the general rule.

In the present remarks I have spoken specially of the somniferous or hypnotic powers of chloral. I have used it for other purposes, but it is not my intention to dwell upon them at present. It will not fulfil all the many and almost endless indications for which opium is used in Medicine; but I have seen enough to convince me that it will prove a very valuable anodyne in some cases of neuralgia, hysteralgia, dysmenorrhœa, pleurodynia, etc., and in the pains attendant upon cancer and acute local inflammations. In some cases of irritable bladder and chronic cystitis I have found it give the patient much longer and more perfect rest than large doses of opium. In several instances it has seemed to me, when given in small and repeated doses, to soothe down both acute and chronic cough with remarkable effect; and I have known it to relieve asthma. Lately in a young lady whom I saw in consultation with Dr. Taylor, suffering under a severe attack of congestive bronchitis with some hæmoptysis, orthopnœa, a small dose (twenty grains) of chloral was given at night. "She speedily fell asleep," wrote Dr. Taylor to me the next day, "and slept soundly until 4 a.m., when she sat forward in bed and coughed, but appeared to be only half awake. When I called in the morning at 10.30 she was still enjoying a most placid slumber. As I contrast," Dr. Taylor adds, "the distressed and audible breathing of last night with the tranquil sleep and improved state of the patient to-day, I

cannot help concluding that chloral has a directly sedative effect on the whole respiratory surfaces."

Occasionally I have exhibited chloral in continuous small doses for one, two, or more weeks in succession, and apparently with most marked benefit, particularly in cases of chorea, threatened or incipient insanity, etc. A patient from Illinois, who, for several years, has always regularly suffered excruciating spasmodic pain in the left illiac region, attended with some discharge, for eight days before menstruation began (she has disease of the fundus uteri and left Fallopian tube), has, during the last two periods, kept at bay this old and formidable suffering by taking chloral night and morning during the threatenings of it. She strongly assures me that formerly she had used very large doses of opium and other anodynes without any such favorable effect. I have found the parturient uterus to go on contracting regularly and strongly when the patient was so deeply asleep under chloral as to be only very imperfectly wakened up with the expulsive efforts of labour.

It has been employed in continued fevers to induce sleep and quietude and reduce the pulse. Dr. Liebreich speaks of its utility in rheumatism, convulsive coughs, tetanus, acute mania, and delirium tremens, and as a sedative after Surgical operations.

The dose of chloral to an adult for an hypnotic which I have usually employed has varied from 50 to 60 grains; but 25 to 30 grains suffice in some patients. In a case of long-standing sleeplessness, and which had resisted great doses of opium, Indian hemp, etc., 120 grains failed to produce any effect. When used for anodyne and other medicinal purposes, a continuation of smaller doses—as 10 or 20 grains several times a day—is sufficient.

In administering chloral I have given it only by the mouth and by enema; almost always as a draught. It is somewhat acrid and pungent to most palates, and hence requires to be diluted well with water, and to have added to it a large quantity of syrup.

When it first came into use in this country the charge for a dose containing 1 drachm or 60 grains of chloral was as high as 3s. 6d.—an almost prohibitory price. A draught containing the same quantity is now sold by our druggists at Edinburgh for six pence; and doubtless it will become much cheaper when it becomes more employed.

INTUSSUSCEPTION IN AN INFANT CURED BY INFLATION OF THE BOWEL.

W. S., æt six months, admitted into Guy's Hospital March 28th, 1870. The child appeared in perfect health until yesterday afternoon about

four o'clock, when, whilst sucking a crust of bread, he suddenly screamed out, fainted, and became cold. The mother took him to a doctor, who gave him a powder, which made him very sick. He continued in great pain, and cried incessantly. At three o'clock this morning he passed a quantity of clotted blood per rectum, and this continued to run from him until he was admitted into the hospital at twelve o'clock. The last fecal evacuation took place at noon the previous day.

On admission, the child was seen to be well grown, but face pale, and had a generally collapsed appearance. On examining his abdomen, a lump was distinctly felt to the left and above the umbilicus, which hardened when pressed upon. On passing the finger up the rectum a round projection could be felt about four inches up, with a circular orifice in the centre. The finger, when withdrawn, was covered with blood. The case being clearly one of intussusception, Dr. Wilks ordered inflation of the bowel by means of a bellows. Chloroform was given, and an enema tube passed into the rectum, the other end being attached to the bellows. The attempt to inflate was at first unsuccessful, owing to the large size of the rectum; but by increasing the width of the tube by wrapping a strip of lint round it, the colon was well inflated, and then the lump gradually went back until it quite disappeared. A drop of opium was ordered in a drachm of dill-water, and the breast to be given sparingly.

On the following day, March 29th, no lump could be felt. The child had been sick several times, and nothing had passed per rectum. To repeat the medicine.

March 30th, child very irritable; apparently much tenderness over abdomen, especially towards the right side. Occasionally sick. Passed a little blood, but no feces.

31st, evidently better. Had a liquid evacuation with no blood, and sucks well.

April 1st, passed a natural motion, and altogether better.

2nd, child apparently well, and taken out by the mother, who was somewhat discontented at the operation performed on him, as she never could be made to realize the severity of the case.

He remained well until the 10th, when he was brought to the hospital, having had fresh bleeding, and the lump could again be felt. The mother would not allow the child to be again taken in for the purpose of a renewal of the method which had been before so successful, but took him away for the purpose of procuring some physic for him; and no more was heard of the case.

Dr. Wilks remarked that this was a good model case of intussusceptio nd of the appropriate treatment. The nature of the involution was of

the usual kind—the ileum into the cæcum, and the subject a boy, as is most commonly the case. There was, however, one symptom which had not been hitherto remarked, viz., the collapse at the time of the occurrence of the passing in of the bowel. The sickness and constipation denoted intestinal obstruction, and the passage of blood, that this was caused by intussusceptio. This symptom was first clearly established as a characteristic sign of this accident, by Mr. Gorham, who wrote an excellent article on the subject in the Guy's Hospital Reports for the year 1838. If there had been any doubt as to the nature of the case, this would have been removed by the discovery of a tumour in the abdomen, which contracted on being handled, and by the fact of the rosebud-like projection to be felt in the rectum. This showed that the intussusceptio was very extensive. The treatment was then clear, and, in other cases, was completely successful. Dr. Wilks's wish was to keep the child in for some time, continue the opium, and feed him most sparingly. It was also discussed whether a pad over the abdomen might be efficacious in preventing a return of the intussusceptio.—*Lancet*, May 21, 1870.

THE PROXIMATE

CAUSE OF HÆMORRHAGE INTO THE BRAIN AND RETINA IN CASES OF CHRONIC BRIGHT'S DISEASE.

By George Johnson, M.D., Physician to King's College Hospital.

It is a well known fact that hæmorrhage into the brain and into the retina is a common accident in the advanced stages of chronic Bright's disease. The explanation which I have hitherto given of this occurrence has been the fallowing. (*) The muscular walls of the minute arteries in most of the tissues, including those of the brain, are much hypertrophied. Hypertrophy of muscular tissue is a physiological result of its long continued over-action. Excessive contraction of the minute systemic arteries impedes the onward movement of the blood, and calls for increased efforts on the part of the heart to carry on the circulation. Hence, hypertrophy of the left ventricle. One obvious result of the struggle between the excessive cardiac propelling force and the excessive arterial resistance must be to cause increased strain and pressure upon the arterial walls, and so to increase the risk of hæmorrhage, consequent on rupture of one or more minute arteries. The small pin-head aneurisms of the minute arteries of the brain in some cases of cerebral hæmorrhage, indicate a giving way of the arterial walls under the strain to which they have been subjected, which must obviously render them very liable o rupture.

(*) See the British Medical Journal, April 16, 1870.

That this is the true account of some hæmorrhage into the brain, and into the eye in cases of Bright's disease, is extremely probable, but a case that has recently occurred under my care in the Hospital suggests a somewhat different explanation of some hæmorrhages. A man, 65 years of age, had left hemiplegia and chronic Bright's disease. After death a moderate-sized clot was found in the right optic thalamus. The kidneys were small and granular. The left ventricle of the heart was hypertrophied; the valves were healthy; the minute arteries, unfortunately, were examined in only two tissues—in the subcutaneous tissue and in the brain. The walls of the subcutaneous arteries were much hypertrophied, while those of the pia mater presented no appearance of hypertrophy; they were, so far as we could judge, of the normal thickness.

We have observed, in cases of chronic Bright's disease with hypertrophy of the left ventricle, that while, as a rule, the minute arteries in all the tissues examined—the kidneys, the pia mater, the subcutaneous tissue, the muscles, and the mucous membrane of the bowels—have their muscular walls hypertrophied, the hypertrophy of the arteries of different tissues in the same subject is sometimes unequal.

Now, it is manifest that when hypertrophy of the left ventricle has resulted from excessive resistance to the circulation occasioned by the contraction of the minute systemic arteries, if the arteries in any one tissue or organ contract and strengthen their walls in a less degree than those of other tissues, the capillaries of that tissue or organ will be subjected to more than the ordinary degree of pressure, and will in the same degree be more liable to rupture.

So it is probable that the cerebral hæmorrhage in the case to which I have just now referred may have resulted from rupture of the capillaries; and that the immediate cause of this rupture was the excessive pressure upon the cerebral capillaries, due to the fact that the propelling force of the hypertrophied left ventricle was not counterbalanced by an equivalent hypertrophy and consequent resisting power in the minute cerebral arteries.

The question to be determined is this—In cases of hæmorrhage into the brain or retina, associated with chronic Bright's disease and hypertrophy of the left ventricle, are the walls of the minute arteries of the brain and retina, as a rule, hypertrophied in an equal degree with the arteries in other tissues—for example, those of the subcutaneous and mucous tissues? Or is there little or no hypertrophy of the cerebral and retinal arteries? The absence of hypertrophy of the minute arteries in the eye and brain would indicate the probability that hæmorrage has resulted from rupture of capillaries consequent on the excessive injecting

force of the hypertrophied left ventricle. It is obvious that, with equal hypertrophy of the left ventricle, the strain upon the capillaries will be in inverse proportion to the arterial resistance; also that the strain upon the arteries will bear a direct relation to the resistance offered by the partial closure of the minute arterial stopcocks. It is, of course, admitted that degeneration of the coats of the blood-vessels, whether capillaries or arteries, will render them liable to rupture even without undue strain upon their walls.

In order to work out the details of this interesting pathological problem, the co-operation of many independent observers is needed, and I very earnestly invite this co-operation.

ON THE USE OF RAW MEAT IN DIARRHŒA AND DYSPEPSIA.

By Robert Druit, M.R.C.P., &c.

I learned the use of raw meat as a remedy for diarrhœa, from the late estimable Professor Trousseau, during a visit paid to his clinique at the Hôpital des Enfants Malades in 1851. Since that time I have had abundant opportunities of proving its efficacy, and although I know that it is largely used by some Physicians, it may not be unseasonable at the present time to call attention to it, and to encourage its more general use.

Let me begin with a few words on the mode of preparing it. The meat used may be either mutton or beef—say a tit-bit of the loin of mutton, or of the fillet or other tender part of beef. This must be submitted to a process either of pounding, or of scraping, so as to get the red soft muscular substance, as free as possible from all fat and fibre. The muscular substance so prepared forms a soft pink pulp, and even a good-sized piece of raw meat seems to yield wonderfully little by comparison with the parts that are rejected. It must be a pulp, giving no feeling of resistance when squeezed between the fingers.

The modes of administration are many. It may be given by itself, and this way is best in the case of young children. Very young infants may suck it from the end of their nurse's finger, and most of them take it greedily enough in this way. Children who are older, say from two to five, may swallow it if dusted over with white sugar. Older persons may take it conveniently if diffused through a little strong beef-tea. But there is another way for which I am indebted to a lady who has made very large use of this remedy in the case of her invalid daughters, and which is known amongst a pretty wide circle as a *jellied chop*. This consists in diffusing the meat pulp through a stiff meat jelly, and allowing it to cool in a shape. This is eaten like a spice, and is very nice to any one whose

prejudices are not aroused by the notion of rawness. Salt and other condiments may be added at discretion.

The cases in which raw meat has peculiar efficacy, are those in which other food passes undigested, and adds to the irritation of bowels in a state of diarrhœa. It seems to furnish the most efficient kind of nutriment with least inconvenience from bulk or other quality, and to be digested and absorbed with as little fæcal residuum as possible. Still there must be someting more about it than this; for the liquid essence of beef will not take its place, neither will cooked meat.

First amongst the cases in which it is useful may be mentioned any acute cases of infantile diarrhœa, especilly the infantile "cholera" of summer. No matter what medicines and what other kind of food may be used, I believe raw meat to be in itself both a remedy for the diarrhœa and a nutriment that may keep the child alive till the disease passes off.

Secondly, in the chronic diarrhœas of children, arising from scanty food, or what comes to the same thing, food which cannot be digested, and which consequently passes the bowels as a foreign offending substance, here the raw meat acts as food and medicine.

In the habitual diarrhœa associated with "marasmus"—that is, with the superficial ulceration of the intestinal mucous membrane, and enlarged mesenteric glands of strumous children—the raw meat, especially in the form of the "jellied chop," is of most especial service. It is curious to see in cases of this sort how absolutely the stomach sometimes refuses to act upon the food put into it, so that meat, milk, etc., may be recognized unaltered in the fæces. It is just in these cases that the raw meat shows itself susceptible of quick digestion in the stomach. The cases which the ancients called *lienteria*, or *intestinorum lævitas*, and which were designated in England in the last century "lubricity of the intestines," in which stomach and bowels are so irritable that they pass on and eject the food before it has had time to be dissolved and absorbed—are equally benefited by the use of raw meat.

Lastly, there are the cases of the obstinate vomiting of pregnancy, whether attended with diarrhœa or not. This is a kind of case in which no remedy is unwelcome or superfluous. I cannot take to myself the credit of suggesting it, for the mother of a young pregnant lady who was in imminent danger of exhaustion from vomiting had witnessed the good effects of this food in the case of another daughter who died of ulceration of the intestines, and gave it of her own accord. But I can bear testimony to the fact that the raw meat was taken readily and kept down when almost every other food was loathed and vomited, and I consider the patient's safety largely due to it.

CLINICAL NOTES OF SKIN DISEASE.

By Erasmus Wilson, F.R.S., F.R.C.S., Professor of Dermatology in the Royal College of Surgeons, England.

Anæsthetic Properties of Carbolic Acid.

In the year 1868, I was consulted by a military officer, aged forty-four, for hypertrophy of the epithelium of the glans penis, and neighbouring fold of the prepuce. The end of the penis was perfectly flat; it had the appearance of being truncated and spread out; the most shallow groove separated the flattened glans from the broad, round border of the prepuce, and the whole of the flattened surface was coated over with a thick, horney, and in some places, warty layer of epithelium of extreme density and considerable thickness. The covering of the glans resembled a layer of horn, and partially constricted the meatus urinarius; that of the prepuce was like the structure of an old but very prominent wart, and bore evidence of being the product of elongated, as well as of enlarged papillæ.

The history of the case was as follows:—The patient had been the subject of herpes præputialis, repeated, as is usual with that complaint periodically; he was also, when these attacks took place, tormented with phymosis; and his surgeon, to remove the phymosis, performed the operation of circumcision. This happened in 1861, seven years previously to his coming under my care; and from the period of the operation up to the present time, irritation of that part had continued to prevail; the papillæ of the glans and inner surface of the stump of the prepuce had increased in size, and a thickening and condensation of the epithelium was the result. He had made many efforts to obtain a cure, and was almost in despair.

I proposed to him to remove the horney layer and obliterate the hypertrophous papillæ by means of a solution of equal parts of potassa fusa and water, and this I have succeeded in accomplishing almost completely. The application of the caustic was excessively painful, so that only a small portion of the growth could be operated on at a time; and at the end of a few days there was so much inflammation that it became imperative to desist for a week or more before resuming the use of the remedy. This circumstance, and the necessary pursuit of his military duties, have protracted the cure for nearly two years; but during that period he has been making sure, although slow progress, and bit by bit the extent of the disease has been diminished.

In the course of the treatment, I endeavoured to persuade him to apply the caustic himself, and supplied him with the material; but the attempt failed in consequence of the excruciating pain caused by its application. It was evident that some share of this extreme sensitiveness was due to the sensibility of the organ, and not a little to irritability induced by prolonged inflammation. This was our position one day recently: I had denuded the base of a large portion of the hypertrophous growth; but another application was necessary to reach the papillæ; and the patient's power of supporting any further pain was exhausted. There were reasons why chloroform could not be employed; local anæsthesia had, possibly from mismanagement, complicated the difficulty, and I was beginning to feel a little puzzled for the means of attaining my object, when it occurred to me to attempt to conquer the morbid irritability of the part by means of carbolic acid. It may be premised that in consequence of this dread of pain, I had left the application of the caustic to the patient himself, merely encouraging him to proceed, and pointing out the spots which he should principally attack; and when I suggested, after some minutes of agony, that he should touch the raw surface with carbolic acid, he shrunk from the proposal, having on several occasions used it before, and found it very painful. Nevertheless, the occasion was pressing, and he brushed the surface with carbolic acid, and was gratified by finding that he could do so without suffering. The carbolic acid exercised its usual effect of coagulating the albumen of the surface, and producing a white film; and after repeated applications the film had reached a considerable thickness. Now was the time for the renewal of the original caustic, and after some hesitation it was applied; but to the patient's astonishment and my own satisfaction with an almost painless result. The caustic which a few minutes before was utterly unendurable, could be used now, and with perfect freedom—almost without inconvenience. We followed up our discovery, and left very little of the surface for future operation.

This anæsthetic property of carbolic acid was not altogether new to me: but I had never before seen its power so strikingly manifested. I have used it often since, and always with the most satisfactory result; and I employ it at present, very commonly, previously to the application of caustic to lupus and epithelioma. It benumbs the surface, it dulls the excessive sensibility of the superficial nerves, and it thereby permits the caustic action of our remedies, with a great reduction in the amount of pain. It admits, I have no doubt, of more extensive application, and will, I have reason to believe, come into general use for a similar purpose. —*Belfast Journal of Cutaneous Medicine.*

CHLORATE OF POTASS IN CHRONIC ULCER.

In the year 1866, a man, aged forty-nine, showed me some small ulcers upon one of his legs, which had been in existence for two years. They were six or eight in number, and the intervening skin was red and irritable from the presence of ekzema squamosum, probably induced by the use of poultices. The ulcers were deep, perforating the whole thickness of the corium, without granulations, and moistened with a colourless exudation. From the appearance of the sores, I was led to the belief that they were syphilitic, although I could obtain no satisfactory syphilitic history from the patient. Nevertheless, there were the ulcers, of two years standing, a great incumbrance to the patient, and he wanted to have them cured. I satisfied myself that they were no consequence of varicose disease, and no other explanation was apparent to me than the one I have named. His general health was moderately good; he was a little pale and flabby, the conjunctivæ were white, and there were obvious indications of a cachectic tendency.

My patient lived in the country, and this must serve as an explanation of the fact of the long interval between his visits, indeed he was generally relieved temporarily by the treatment I adopted, and as long as he remained moderately easy he delayed a journey to town, and only made it when impelled by necessity. Thus, although he may be said to have been nearly four years under my care, I have only seen him eleven times. On his first visit in June, 1866, impressed with the belief that the hidden cause of the disease was syphilitic cachexia, I prescribed five grains of iodide of potassium, with a drachm of fluid extract of sarsaparilla, twice in the day; one grain of the protioduret of mercury, with three of extract of conium at bedtime; and an ointment of oxide of zinc with carbolic acid, ten minims to the ounce.

In the same month of the following year (1867) he paid me a second visit. He had improved under the treatment I had prescribed at the time, but had now fallen back into his former state. This time I ordered for him nitro-muriatic acid with gentian internally, and the unguentum resinæ to dress the sores: but at the end of six weeks was obliged to resort again to the iodide of potassium: and at the latter end of November, put him through a regular course of the iodide of potassium, namely, increasing in dose every ten days, beginning with five grains twice a-day, and rising upwards to seven grains and a half three times a-day: moreover, the unguentum resinae did not agree satisfactorily with the sores, and the oxide of zinc ointment with carbolic acid was resumed.

In 1868, he returned to me early in the year with the sores still

unhealed: he thought the ointment irritated the skin, and I substituted camphor for carbolic acid in the zinc ointment, and prescribed for him five grains of citrate of iron and quinine, twice daily. But in April, I again felt the necessity of resorting to the iodide of potassium. In September he pointed out to me four tubercles, apparently syphilomata, situated around the ankle; and as I was growing discontented with the powerlessness of the iodide, I gave him the perchloride of mercury with bark. But the perchloride seemed to have as little permanent influence as the previous remedy; and in November I again fell back upon a graduated course of the iodide of potassium.

It was observable that the longest intervals of benefit always followed the graduated course of iodide of potassium; that for a while it could be depended upon, but that sooner or later all the old symptoms returned. Thus at his last visit in November, I put him under a course of iodide of potassium, and he found no necessity for returning to me until August, 1869. He then informed me that the ulcers had healed over under the iodine course, and had remained healed for several months; but that they had now broken out afresh. And in this instance as he had been taking the iodide so recently, I had recourse to the solution of the perchloride of mercury with cinchona.

I had now come to consider my patient's case as one of some difficulty and no ordinary obstinacy; and, therefore, when he presented himself to me some two months later, in no degree improved, but rather worse than usual, I determined to vary my method of treatment and try the effect of the chlorate of potass, instead of the iodide of potassium. I had previously found the chlorate of potass valuable in other obstinate cases originating in syphilitic cachexia, and I had employed it also in cancerous cachexia with benefit: and the case before me seemed well adapted to test its capabilities. In the early part of November, 1869, therefore, I prescribed ten grains of the chlorate of potass twice daily; with the application to the ulcers, once in the day, of a solution of chlorate of potass in glycerine, of the strength of one drachm to the ounce. Four months later, namely on the last day of February, 1870, he again paid me a visit; this time, evidently, very much improved in health, and in good spirits: the leg, he said, was sound, and he felt better than he had ever done before. He stated that the local action of the chlorate of potass was very remarkable; he could see a change for the better every time he used it; that the foul appearance of the sore rapidly vanished, and that it filled up with firm granulation. At one time, he said, he had nine ulcers upon the leg, the largest about an inch in diameter, and all circular in figure, but they were now completely

healed, and more solidly than had been the case before. After five years of experience in this troublesome malady the opinion of the patient was not without its value; and he stated that the last treatment had produced a more decidedly favourable effect both on the sores and on his health in general, than any other he had undergone.—*Belfast Journal of Cutaneous Medicine.*

CLINICAL LECTURE.

Clinical Lecture on Latent Scarlatina followed by fatal Uræmia.—By Charles Murchison, M.D., Physician to the Middlesex Hospital and Lecturer on Practice of Medicine.

Gentlemen.—The important practical lessons to be learnt from the case which to-day I bring under your notice will, I trust, be indelibly impressed upon your memory. We have just been witnessing the post-mortem examination of the body of William C—, aged twenty, a French polisher, who was admitted into the hospital on September 27th, 1869, and who, during life, presented all the symptoms in a typical manner of acute nephritis. About a fortnight before admission dropsical swelling had appeared in his legs, and his friends had noticed a puffy swelling of the face. The urine at the same time became scanty and high-coloured, and during the week prior to admission he had suffered from headache and occasional vomiting. Throughout the fortnight the bowels had not acted except after taking purgative medicine. At the time of admission there was considerable general anasarca; the face was puffy, pasty, and anæmic; but there was no evidence of fluid in the serous cavities. The pulse was 72, and the respiration 16; the physical signs of the heart and lungs were normal; tongue slightly furred, appetite good, but frequent retching of watery fluid; bowels freely open by medicine. Much headache; pupils large; little sleep, but mind clear. No pain nor tenderness in loins. Urine scanty, of sp. gr. 1018; deposited after boiling two-thirds (in volume) of albumen, and contained numerous blood corpuscles and renal epithelium cells. No desquamation of cuticle.

The proper treatment in any case presenting the symptoms now described is to relieve the kidneys by inducing free action of the skin and of bowels. Accordingly the patient had a warm bath and afterwards was kept warm in bed; half a drachm of compound jalap powder was given at once, and a draught containing two drachms of liq. acet. ammoniæ and a scruple of acetate of potash was ordered to be taken every four hours. On the following day the patient seemed better; there was moderate perspiration, but the bowels had acted only slightly. A drachm of compound jalap powder was now ordered. Through some negligence on the part of

the nurse, this powder was not given; but in the evening the bowels acted twice, and the patient was very improperly permitted on both occasions to traverse the whole length of the ward in going to the water-closet. After this he slept well till five next morning, when he passed some urine less smoky than before, but containing one-half of albumen. Shortly after this the nurse's attention was attracted by his breathing loud and stertorous, as if he were recovering from a fit. At 5.30 the jalap powder was given, but at 6, and again at 7, he had a fit of violent convulsions, with foaming at the mouth and lividity of the face. He regained consciousness after these fits and complained of intense headach. He had a warm bath after the second fit; but at 8 a.m. he had another fit, and after this he remained in a state of profound stupor and great restlessness, interrupted by a return of the convulsions about every half hour-hour, until his death about 7 p.m. The pupils were mostly contracted, but dilated during the convulsions. No urine was passed after 5 a.m., and the breath had a fetid ammoniacal odour, but there was profuse perspiration. A bladder of ice was kept applied to the head, and at my visit at 1 p.m., two drops of croton oil were given by the mouth, and the patient was bled from the arm to 14 oz. For about half an hour after the bleeding there seemed to be a slight improvement; the patient was less restless, his breathing was quieter, and his expression less heavy.

At the autopsy, the blood throughout the body was found to be black and fluid. The spleen was large, weighing 10 oz., and diffluent, like the spleen of typhus. The heart was healthy, and the lungs congested. The peritoneum contained 6 oz. of clear serum, the pericardium 2 oz., and each pleura about 4 oz. The brain presented nothing abnormal beyond considerable congestion and an ounce of clear serum at the base. Both kidneys were much enlarged, weighing together 15 oz.; their surfaces were smooth, and their capsules here and there slightly adherent. The cortex was much hypertrophied and generally pale and opaque, but the pyramids and the Malpighian bodies were intensely congested and dripped with blood on section. The urinferous tubes were crammed with granular epithelium, and some of them contained extravasated blood. The bladder was empty.

Here, then, we had a typical case of acute nephritis proving fatal by suppression of urine and blood poisoning. The small quantity of urine voided immediately before the fits had probably been secreted some time before; none was secreted afterwards. The fact, however, that the case was a good illustration of acute nephritis was not the chief reason that induced me to make it the subject of this lecture. It is to the cause of

the attack that I wish particularly to direct your attention. Almost all of the cases of acute nephritis which you meet with in practice are referable to one of two causes, viz: 1, a chill, as from exposure to cold and wet; and, 2, some poison in the blood, and especially that of scarlet fever. With regard to a chill, you must remember that it is only under exceptional circumstances that it excites nephritis. Supposing twenty or thirty persons all exposed to the same cause of chill, nephritis would occur probably in only one; and it would be found that this person was of adult or more advanced life, and that he had either led an intemperate life or had previously given evidence of chronic disease of the kidneys Our patient, however, was young; he had previously enjoyed good health, and been very steady and temperate, For these reasons, and knowing how usually prevalent scarlet fever is at this time, one of the first questions I put to the patient was whether he had recently recove ered from scarlet fever; but both he and his friends denied all knowledg of his having suffered from it or of his having being exposed to it. It was only on cross-examination that we discovered that a month before admission, or a fortnight before the appearance of the dropsy, the cuticle had peeled off his hands, and that for this he consulted a surgeon, who prescribed an ointment. While this desquamation was going on he felt weak and out of sorts, and he went to Weymouth for four days. On his return his friends observed that he did not seem much the better for his holiday, and he first felt his throat a little sore; but, prior to this desquamation, he had not had sore throat nor eruption; and he had not given up work. It was further ascertained that, while this desquamation was going on, his three younger brothers and sisters were confined to bed for two or three days with sore-throat and fever, and his elder brother, although he had no sore throat, and did not give up work, also felt ill. No eruption was observed in any of the four. In the face of these facts, no one will dispute that the nephritis in our patient was determined by an attack of scarlet fever.

The practical lesson which I wish you to learn from this case is, never to neglect a mild case of scarlet fever. You will constantly be consulted in the case of children who, after a known exposure to scarlet fever, have the symptoms in so mild a form that they are scarcely thought to be ill. The practice is far too common of permitting such patients to be up and to go about as usual; and, indeed, in more developed cases of scarlet fever, the patient is often allowed to leave his bed much too soon. In numberless instances I have known this practice result in nephritis, some terminating fatally by uræmia, or by secondary pericarditis, pleuropneumonia, gastrœnteritis, &c.; and at other times ending in chronic,

but permanent, degeneration of the kidneys. During the third and beginning of the fourth week of scarlet fever, the urine often contains albumen, and the kidneys are more or less congested. You would be astonished to find how much albumen may sometimes be present, without any dropsy or other symptom of renal disease. But if during this time the transpiration of the skin be checked from any cause, the congestion of the kidney may become converted into nephritis. It is a good rule, therefore, to keep every patient recovering from scarlet fever in bed or in a warm room for at least three weeks from the commencement of the attack, and not even then to permit a change if desquamation be going on, or if the urine contain albumen. The rule is sometimes difficult to enforce; but the present inconvenience of the practice ought to weigh for little against the possible dangers from this neglect. For nearly ten years this rule has been followed at the London Fever Hospital with this result, that nephiritis as a sequel of scarlet fever has, during that time, been almost unknown there, except when it has occurred prior to the patient's admission.

Lastly, the neglect of slight cases of scarlet fever probably contributes much to the spread of the disease. Many observations have satisfied me that the attacks of sore throat, to which even adults (who may already have had scarlet fever) are liable after much exposure to scarlet fever, may be the means of propagating the disease; and you must bear in mind, what I have so often told you, that the most malignant attack of scarlet fever may be contracted from a person suffering from it in the mildest form. The nature and severity are determined by the constitution of the recipient rather than by any difference in the quality of the poison. —*Lancet*, May 21st, 1870.

CHLORAL AS A REMEDIAL AGENT IN WHOOPING-COUGH.

In the second number of the *Bulletin de Thérapeutique* for the present year, page 55, Dr. A. Ferrand details the particulars of three cases of the above disease which were treated successfully by chloral. The patients were children of one family, and were aged respectively four, eight and ten years. Other remedies having proved quite inefficacious, Dr. Ferrand resolved to make trial of this novel agent. He administered it simply in syrup, in the proportion of two grammes to 150, so that each tablespoonful represented about 26 centigrammes of chloral. Of this syrup he gave three tablespoonfuls, one before dinner, one after dinner, and one at bed-time. The effect was unexpected. A sound and refreshing sleep took the place of the three or four fits of coughing with vomiting, which had previously disturbed the little patients, and after a ten days' perseverance in the treatment in one case, 15 in a second, and 20 in a third, convalescence was re-established.

Canada Medical Journal.

MONTREAL, JULY, 1870.

With the present number, the *Canada Medical Journal* enters upon the seventh year of its existance. In taking a retrospective glance over the six years of our editorial labor, we find that we have received much encouragement from a large number of the Profession in every Province in the Dominion. Our pathway has, however, not been strewn with roses—on the contrary we have encountered many difficulties—which, had we not started out determined to succeed, might well have discouraged us. Where we anticipated a cordial reception and warm encouragement, we have been received with cold indifference; we have been styled sectional, when we have done everything in our power to prove that we desire to be the organ, not of any section, nor of any school, but of the entire Profession in the Dominion. We have embraced in our editorial staff, two gentlemen connected with schools, one in the Province of Quebec, the other in the Province of Ontario, while the general Profession is represented by three editors, one in each of the Provinces of Nova Scotia, New Brunswick and Quebec. This is diversity sufficient, we think, to secure for our journal the position we desire for it, that of an independent medical paper, willing to give praise when and wherever deserved, but still claiming the right to discuss, untrammeled, all the medical questions of the day. While doing so, we have tried to avoid anything like personality, and, as it has been in the past, so will it be in the future. No argument is ever strengthened by abuse. Our labour as editors, from the starting of this journal, has been and continues to be "a labour of love." We do not receive any remuneration for our services. We have felt, and still feel strongly, the desirability of having established upon a permanent footing, in this Dominion, a medical journal, that will be deemed worthy of our young and rising country. We have endeavoured to do our part, but have many a time felt most woefully that we stood alone. We have not had that assistance in the matter of original papers that we could wish, and in this respect the Profession in Canada, has good reason to hold down its head for very shame. They have many opportunities, they have the talent, but they do not use it. Especially to blame in this respect are many of the physicians and surgeons of our various Hospitals and Charitable Ins-

titutions. Their very appointment implies a responsibility in this respect, that we regret to see so little thought of. They see patients in large numbers under circumstances favorable to observation. Above all others they have the opportunity of taking a comprehensive view of the science of Medicine and Surgery. The Profession have therefore a right to demand that those thus placed, shall not allow the various interesting and instructive cases which are constantly being admitted in our hospitals to go unrecorded. In this matter of original communications, we appeal to our subscribers for aid; they can do much to make our journal both interesting and instructive. Let each succeeding number of this volume prove the increasing interest they take in its success.

TO INTENDING SUBSCRIBERS AND CONTRIBUTORS.

With this number of the Journal, will be sent a blank form, which should be filled up by intending subscribers and returned to the publishers, Messrs. Dawson Bros., St. James street. We will send this number of the Journal to the address of every medical man throughout the Dominion, whose address we can obtain. We are desirous of extending our circulation, and in entering on the seventh volume of our journal, we have to thank those gentlemen who have from time to time seconded our labours by contributing to our pages. This is a practical and utilitarian age, and we doubt not that, had we been able to hold out some substantial inducement, there would have been no lack of material for our pages. This fact forces itself upon us, when we reflect that for six years we have struggled to keep up a literary existence and have barely succeeded. The Profession, perhaps are not aware that the editors of this journal have no pecuniary interest in the undertaking, and that the labour has been self imposed. The subscription list hitherto has been barely sufficient to pay the actual expenses of the journal, and in continuing the publication we do so solely and only that the Profession may be represented, and have a medium of communicating important and interesting facts. It has been and still is discouraging to find each month our editorial labour increased, and it does not speak well for the members of our profession that they systematically allow, month after month and year after year to go by without having contributed a single line out of the rich store-house of their common observation. It is a duty incumbent on all professional observers, to note and record their experience, those who do not do so are unable to fully appreciate the wonderful and marvelous operations of nature or else they are not fully alive to the duty they owe to their fellow men. Professional men should bear in mind that they are like other men, mortal, and that

if they have anything to contribute to the score of science, let it be done without delay: time is so uncertain that procrastination, that great thief, will, if indulged, place them amongst that numerous band who have been content to live their life through without ever having sought to benefit their fellow men by good and salutary advice. We write in no spirit of reproof, for that would be an impertenence in which we would be sorry to indulge, but we cannot close our eyes to the fact that great apathy does exist in our ranks, one which is not observed in other medical communities, who reckon their numbers by thousands. We have reason to hope that it is alone necessary to call the attention of the Profession generally to this subject to secure a hearty response.

THE CANADIAN MEDICAL ASSOCIATION.

The third annual meeting of this association will open at Gowan's Hall, in the City of Ottawa, on Wednesday, the 14th September next, and we hope that there will be a large attendance of medical men from every Province in the Dominion. It was with a view of having a more than usually large gathering that the city of Ottawa was selected for the place of meeting this year, it being centrally situated, and easy of access. Several matters of much importance to the profession will be brought forward, among which will be the report of the committee named at the last meeting, to prepare a bill having in view one uniform system of medical education and examination, to be submitted to the Dominion Parliament. We have reason to believe that this committee have not been idle, and that a draft of such a bill will be presented to the association. That it will give rise to considerable discussion, there can be no question, yet we sincerely trust that every member will approach that discussion, feeling that the future *status* of our profession depends much upon the decision at which the members of the association may arrive. The singular spectacle of finding homœopaths and eclectics, sitting at one Medical Board, can only be obliterated by having one Medical Council for the entire Dominion. Although our opinion on this matter, as expressed in numerous editorials that have appeared in this Journal, is still the same, we admit that circumstances are tending to one central Board, and that in the present condition of medical politics, it is the duty of every member of the association to lend his aid to the Dominion Bill which the committee may present, or at all events with such alterations as may seem necessary. It is in every way desirable that the members of the association, should go to the meeting prepared to discuss this question in all its bearings, and we would suggest to the committee, that it would be advisable if possible to have the draft of their proposed Bill printed and sent to every member, at least two weeks previous to the meeting.

The adoption of this course would save the association much valuable time.

Another subject of vital importance to the association is its financial condition, which, we regret to state, is not in that flourishing condition we would wish to see it. It is true that it is not largely in debt, yet that it is at all in debt is much to be regretted, and that it is not more so is due to the fact, that the publication committee have simply incurred the expense of printing the minutes of the last meeting, holding over the papers which were read and contributed. That they acted wisely in coming to such a decision, there can be no question, yet it is a cause of profound regret that they felt it to be necessary. All who were present at Toronto, and heard Professor Howard's able paper on the treatment of Pneumonia, anxiously looked for its appearance, as well as for the other papers contributed, among the proceedings of the association, and more than one have expressed their disappointment at simply receiving the dry details of the minutes. An investigation into the cause of this want of funds, reveals the fact there has been a far too lavish expenditure of money in advertising the meetings of the association. A lesson has, however, been taught the association, and we have good reason to believe that this year this item will be reduced perhaps more than one half.

We also hope that at the approaching meeting, no member will be allowed to take part in the proceedings until he has paid his subscription. At Toronto there was much confusion in this respect; one of the meetings, that held on the evening of the 9th September, being in some measure controlled by men who had been elected members during that day, and the previous one, but who had not then, and have not yet paid their subscription to the association. Indeed, we are informed by the present Treasurer that, eighty-four new members were elected at Toronto, and that fifty-three only have paid their subscription. We can scarcely say such a condition of things is creditable.

An advertisement to be found elsewhere gives the necessary information concerning the arrangements that have been made with the various Railroad and Steamboat Companies, for the carrying of members and delegates to the association.

JAMES SYME, F.R.S.E., D.C.L.

The name of Syme has been identified with British Surgery for over forty years; without doubt he occupied a foremost position amongst modern Surgeons. His natural endowments were such as to render him more than ordinarily successful in whatever he undertook. He was cool and collected, ever ready at resources, clear in judgment, and not biased

by whatever might be considered authoritative. Ever ready to act, and act on his own judgment, he possessed great originality, which was tempered by unusual sagacity. He has given to surgery many improvements in operative procedures which bear his name, and which have done more for suffering humanity than all the discoveries of modern times. How can we compare the lasting benefits derived by excisions of joints which he reintroduced into practice with the discovery of anesthetics, the one giving to the patient a permanently useful limb, the other equally beneficial, though of temporary good in saving shock to the nervous system and thereby seconding, as it were, the Surgeon's knife. Mr. Syme could not be called a showy operator. His operations were performed with care and deliberation, as he always kept in view the safety of his patient; but though deliberate and perhaps slow, his operations were characterised by quiet decision; on all occasions he seemed to have decided exactly what he intended to do, and in doing it there was neither hurry, nor unnecessary delay. Mr. Syme was fully alive to the importance, to the practical surgeon, of a careful study of anatomy. It appears that the collateral branches of Medical Science had for him no special interest. Nearly all his writings have reference to the nature and treatment of such diseases and accidents as are amenable and capable of benefit through the surgeon's knife, or by external mechanical contrivance. He fully knew his *forte* and followed it wisely. As a bed-side teacher he was unequalled; his diagnostic skill was at times almost miraculous and his explanations simple, graphic and to the point.

His powers of imparting knowledge were very considerable as he not only taught by speech but by example. Many of the best operators of the day owe to Mr. Syme suggestions received during their pupilage, which have been found invaluable in after life and which they freely acknowledge.

James Syme was born at Edinburgh on the 7th November, 1799. He was educated chiefly at the High School in that city, and as his father was in good circumstances he enjoyed the advantage of a private tutor. As a boy he had few associates and was especially fond of chemical experiments and anatomy. He at first selected the legal profession, but soon relinquished that vocation and commenced the study of medicine under the instruction of Dr. Barclay. Within the first year of his pupilage he discovered a new solvent for caoutchouc, by distillation from coal-tar. By means of this solvent he rendered a silk cloak water-proof, and also made flexible tubes of the same substance. He was advised by his friends to seek for a patent, but in those days all considerations of trade were regarded as inconsistent with the pursuit of a profession, and he wrote a letter to Dr. Thompson, editor of the *Annals of Philosophy*, describing the whole process. Subsequently Mr. Mackintosh of Glasgow, obtained

a patient for making water-proof cloth, using the same material as a solvent that had been described by Syme, some two years previously—Syme, shortly afterwards entered as a pupil at a private school of anatomy, opened by his cousin Mr. Liston. He very shortly accepted the post of Demonstrator of anatomy to the school.

In 1822, he obtained the Membership of the College of Surgeons of London; returning to Edinburgh he took Mr. Liston's place as private lecturer on anatomy. The following year he obtained the Fellowship of the College of Surgeons Edinburgh, and from that time forth set himself earnestly to work, having but one object in view, that of becoming a thorough practical Surgeon. In 1829, after failing to obtain an appointment in the Edinburgh Royal Infirmary, he established at his own expense a private hospital, as he knew that without a hospital no man could become a practical surgeon; one great inducement to this step was the fact that at that time his lectures on surgery were attended by a large class of students, this was more remarkable as competition was keen between himself and other surgeons of acknowledged eminence, who were lecturing on the same branch. His surgical lectures and clinical instruction was recognized by the College of Surgeons London. In 1833, he effected an arrangement with Mr. Russell, who held the chair of Clinical Surgery in the Edinburgh University; this was with consent of the University authorities, and he succeeded that gentleman as Clinical Professor. From this time he continued to teach Clinical Surgery in the University, and secured so high a reputation as a clinical teacher, that a requisition was made to him on the death of Mr. Liston, to remove to London, this offer he was induced to accept in 1848, and he received the appointment of Professor of Clinical Surgery in University College. This office he shortly afterwards resigned and returned to his former seat of learning, and again received the Clinical Chair in Edinburgh, which was still vacant. Here he continued his labours with unremiting energy up to within a few months of his death. In 1868 his judgment was clear and vigorous, and in bodily strength considering his age he was robust. He was able to make frequent journeys by rail between Edinburgh and London, as he was a prominent member of the Medical Council of Great Britain, and so clear was his intellect that his colleagues in the council had marked him out to be the successor to Dr. Burrows in the Presidential Chair.

Early in April 1869, he suffered an attack of partial paralysis, which obliged him to relinquish all public appointments. A second attack which he suffered from early in this year, was quickly followed by a third and fourth seizure which terminated in death, on the 26th June, 1870. His intellect remaining clear and unimpaired to the last. No *post mortem* examination was made.

Medical News.

HASTINGS MEDICAL ASSOCIATION.

The Annual Meeting of the Hastings Medical Association was held in the Marble Hall, Belleville, on Friday, June 17th. The Chair was taken at 10 a. m. sharp by the President, Dr. Boulter, M.P.P. There was quite a large attendence of Medical gentlemen of the County, and considerable business of interest was transacted.

The following gentlemen were elected Office-Bearers for the ensuing year:

Dr. R. Holden, President; Dr. H. W. Day, 1st Vice-President; Dr. Stewart, 2nd Vice-President; Dr. Oronhyatekha, re-elected Secretary and Treasurer.

The Association then adjourned to meet in special session on the first Saturday in July, and the Secretary was directed to issue a circular letter to all regular registered practitioners in the County directing their attention to the objects and aims of the Association.

VICTORIA UNIVERSITY, TORONTO. MEDICAL DEPARTMENT.

We regret to learn that Hon. Dr. Rolph, who has been for so many years Dean of the Medical Faculty of this University in Toronto, has been unable for some time to deliver his regular course of lectures. In view of his failing strength it has been thought necessary to relieve the venerable doctor in part of his duties as Dean. The College Board, which met on the 6th inst., has appointed as his assistant Dr. Canniff, whose name stands high in that branch to which he more particularly devotes himself. It is a great compliment to be appointed as the virtual successor of so eminent a teacher of medicine as Dr. Rolph, but the gentleman selected has fully entitled himself to recognition by his success in his profession.—*Toronto Leader*, July 9.

Committees are being formed in various parts of the United Kingdom, to secure subscriptions towards the erection of a Simpson memorial. In London the Duke of Sutherland is Chairman of the Committee—many of whom think the form the memorial should assume, ought to be the erection of an Hospital, well endowed, for the special treatment of female diseases.—Lady Simpson, the wife of the late Sir J. Y. Simpson is dead; she only survived her husband about six weeks.

DEATH OF SIR JAMES CLARK.

The Medical Profession throughout Canada will hear with deep regret of the death of Sir James Clark, K.C.B., Physician in ordinary to Her Majesty the Queen, which took place at his residence, Bagshot Park, on the 29th of June at the advanced age of 91 years. Dr. Clark had contributed several works on Climate and Consumption to Medical Literature, but his name was constantly before the public as the chief medical attendant of the Royal Family. The *Medical Times* says "he had a character of singular excellence and a career of uncommon usefulness. We believe that when the modest grave at Kensal-Green received the remains of James Clark on July 4th it closed over one of the best men who ever lived."

THE CHAIR OF MIDWIFERY IN THE UNIVERSITY OF EDINBURGH.

Dr. Alexander Simpson, a nephew of the late Sir James Simpson, has received the appointment of Professor of Midwifery in the University of Edinburgh. The election was closely contested Dr. Matthew Duncan lost the election by one vote only.

SWALLOWING OF INDIGESTIBLE SUBSTANCES.

Sir William Ferguson calls attention to the case of a sailor, aged 23, who was in Guy's Hospital in 1853, and who in the course of ten years swallowed at different times at least thirty-five knives. Some of these, or eroded portions, were occasionally vomited or passed per anum. He finally died from exhaustion and, on opening his body, forty different pieces of blades and handles were found in the abdomen.

TREATMENT OF ECZEMA.

Dr. Kent Spencer, of Bath, has found black wash useful as an application in eczema rubrum of the legs, mixed with a tenth part by measure of glycerine. Linen rags are soaked in this and laid on the parts and kept *in situ* by a bandage, but no oiled silk used. He renews the dressings twice daily, wetting them with warm water before removal. He has recently almost always been successful in such cases by this plan.

CANADA
MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

A Paper on Frost-Bite and its consequences, read before the New Brunswick Medical Society. By WILLIAM BAYARD, M.D., Edin., President of the Society, &c., &c.

GENTLEMEN.—In compliance with the wish expressed at our last meeting, I shall proceed to give you a few observations upon "*Frost-bite and its consequences.*" It has been rightly suggested that papers read before this Society should be concise, and as a proof of my concurrence in the suggestion, I shall make my remarks as brief as possible. I do not pretend to have exhausted the subject. If I succeed in eliciting the opinions of my professional brethren respecting it, my object will be accomplished. Therefore, I trust that no gentleman will hesitate to express disapproval, or approval, as his judgment may dictate, of any statement put forth in this paper. Free and enlightened discussion should be our aim; without it, our meetings will produce small results.

I need not tell you that man possesses, in an eminent degree, the power of resisting the influence of cold, and that when the body, or a part of it, has been exposed to *severe* and *long-continued* cold, serious local and constitutional effects may, and oftentimes do, ensue.

The exact temperature required to produce such effects cannot readily be arrived at, so much depends upon the age, vigour, and habits of the person exposed. The very young, the aged, and those whose circulation is languid from any cause, being predisposed to the injurious consequences of it.

High wind increases the effect of cold upon the body, but generally the range of cold must be brought to 16° below freezing-point on Fahrenheit's scale, before actual freezing takes place.

The mean temperature of man in health is 98° of Fahrenheit. The limbs are flexible and moveable at 96°, reduce the temperature a few-

degrees, and the muscles become painfully contracted; if reduction be made further, the muscles become rigid, but they are relaxed by gentle warmth and the motion is restored.

The *local effects of cold* are chiefly observed on the extremities, where the circulation is least active.

The first stage of frost-bite is generally ushered in by a feeling of stiffness and numbness of the part,—it looks pale, has a bluish tint, and is slightly shrunken. Let the cold be continued, sensibility and motion are lost, the part becomes much shrunken, perfectly hard, and white, or presents a mottled appearance. If the part is exposed to a *very low* temperature the sensibility and circulation may be arrested in so sudden a manner as to be unknown to the sufferer.

I need not dwell upon the *constitutional effects of cold* further than to remark that when the body is exposed to severe and long-continued cold, the blood recedes from the surface, rapidly settles in the internal organs, the nervous fluid ceases to be generated, the brain becomes oppressed, stupor appears, and gradually creeps on, till the person is overwhelmed by drowsiness, which, if yielded to, ends in coma and death.

The application of intense cold in a solid form, may cause the "complete and immediate death" of the surface with which it is brought in contact, and form an eschar, similar to that produced by a burn. And it is asserted by some writers, that the action of cold applied *through the atmosphere* will produce the same effect. In other words, that a part of the body may be so "*frozen and killed*" by *atmospheric exposure* that reaction or inflammation *cannot* take place. This I believe to be an error. The temperature required to produce such a result, would necessarily be fatal to the individual exposed to it. I contend that the vitality of the part is *suspended* not *killed*, and that a certain amount of reaction invariably takes places, as is evidenced by the appearance of more or less swelling, pain, heat, and redness within a short period after the removal of the frost. Experience teaches us that a part may be frozen to such an extent that it is stiff, colourless and apparently lifeless, yet, when the frost is properly extracted, it will resume its natural functions.

Professor Syme tells us that "a frost-bitten part *is not dead*, and "when freed from the influence of the cold it regains its power of "action."

Erichsen, page 169, in the last edition of his work, states that "In "the next degree of cold the vitality of the part is completely destroyed, "all sensibility and motion in it are lost, it becomes shrunken and livid; "but though its vitality may have been annihilated by the immediate

" action of the cold, it is not until the part has become thawed that " gangrene usually manifests itself; it then appears to do so, by the " *violence of the reaction induced*, the part rapidly assuming a black " colour, becoming dry, and separating eventually, as all other mortified " parts do, by the formation of a line of ulceration around it."

A portion of the body may have its heat so rapidly abstracted by the evaporation of a spray of ether or rhigoline, as to freeze it, and render it insensible under the surgeon's knife, but in a few minutes reaction takes place, and it regains its natural condition.

The extent of freezing required to produce such reaction or inflammation, that the part must of necessity mortify, cannot readily be arrived at; though we may reasonably conclude that upon the severity and *duration* of the application of cold, depends the amount of subsequent inflammation.

We know that the congelation of water is only the commencement of an operation that is infinite: it is formed into ice at 32°; let that piece of ice be retained in the atmosphere in which it was frozen, and it will receive and retain extra cold, and thus the temperature of the ice falls to that of the air, until it may sink to 40 degrees below zero, and its hardness will increase proportionally.

We also know that nerve substance is composed of 80 per cent. of water, 7 of albumen, and the remainder is fatty matter and salts. May we not expect the same phenomena to take place in the tissues and nerve-substance of the body, that are developed in the piece of ice? Suppose the water of the nerve-substance to be crystallized. May not the ice thus formed continue to receive and retain cold, increase in hardness, and, consequently so disorganize the nerve that when its water is liquified it cannot resume its natural functions.

Dr. Benjamin, W. Richardson (whose experiments upon this subject are highly instructive) classifies the changes developed by cold and during recovery in the following order.

1*st. stage, or starting point.* Natural condition. Temperature 96 Fahr: Sensibility perfect.

2*nd stage. Preaction.* Enervation: removal of nerve force. Increased vascularity. Increased temperature. Exalted sensibility.

3*rd stage.* Inertia. No vascularity, no nerve force, no blood. Temperature 16° Fahr. Perfect insensibility. Solidification of water of tissues.

4*th stage. Reaction.* Returning vascularity of paralysed vessels. Increased vascularity. Increased temperature. Exalted sensibility. Resolution of water of tissues. Enervation continued.

5th stage. Return to natural state. Nervation of vessels. Reduction of vascularity. Temperature 96° Fahr. Natural sensibility.

The cerebrum of a living animal may be frozen. In this state the consciousness of the animal is lost, but the functions of organic life remain the same. The animal thus placed is in a state of hybernation from which it may recover; on recovery the brain does not seem to have lost power. The phenomena are simply those of awaking from profound sleep.

Having frozen the brain and nerve-substance of pigeons and cold blooded animals, Dr. Richardson attributes the phenomena of disturbed natural function to the transference of the water from a fluid to a solid state. He says: "In freezing nerve matter we take from the water its "heat of fluidity, or the force which, holding its molecules apart and "giving them motion, supplied the condition for that mobile and active "state, which is the fluid state of water. We reduce it by this means "from activity towards inertia; therewith we deprive the structure of its "power to maintain what is called life."

He further adds that, "In speaking of the crystallization of nerve-"matter by cold, I have ventured to insist firstly and chiefly on the soli-"dification of the water: but in nerve-substance there is also a consider-"able per cent. of fatty matter, which, when heated, is fluid like water, "and which also like water loses its heat of fluidity, crystallizes, and "becomes solid by cold. When, then, we freeze the brain, we solidify the "fat also, and what is more we solidify it at a temperature at least 30 "degrees higher than the freezing point of water; and as that fat solidify-"ing first, becomes a bad conductor, so it impedes and limits the freezing "of the whole mass of nerve-substance. In hybernating animals I should "think the fatty matter of the brain and cord is intensely solidified by "the cold."

His experiments have proved "that if the freezing extends to the "medulla oblongata, death results from arrest of the respiratory power." Also that in proportion to the rapidity of the freezing, so the reaction diminishes.

Let us now proceed to the practical part of this subject. It is seldom that the surgeon sees a case of Frost-bite before the frost has been removed from the part, and so much depends upon the manner in which it has been extracted, that the mischief is generally done before he is called.

I need not tell you that the affected part should be restored to its natural condition, in the most gradual, cautious, and gentle manner, not violently, lest over-action be produced in a part already greatly weakened.

The person should be placed in a cool room, the part immersed in iced water—or very gently rubbed with snow. If ice or snow cannot be obtained, the coldest water should be used, repeatedly changing it, until the circulation and sensibility are thoroughly restored. The patient should not approach the fire, and all warm applications should be scrupulously avoided. These precepts should on no account be neglected, for by so doing, mortification would in all probability be the result.

Sooner or later after the part has been restored to its natural temperature and sensibility, capillary congestion takes place, accompanied by the usual symptoms of reaction: heat, redness, pain, and swelling. If the part has been exposed to severe or long-continued cold, effusion under the cuticle appears; this generally takes place in from 12 to 24 hours; the vesicles may be filled with a colourless serum, or a mixture of blood (or the hæmatin of blood) and serum.

In the milder form of inflammation the contents of the vesicles is *colourless*, in that where the part has become disorganized, the contents of the vesicle is very *dark* coloured: and if the dark colour of the vesicle is accompanied by the falling of the nails, we may conclude that such an amount of disorganization has taken place, that gangrene must be the result.

The treatment of Frost-bite after reaction has commenced, consists in endeavouring to prevent the inflammation from running to such an extent as to induce sloughing of the structure. The necessity no longer exists for keeping the patient in a cool room. The part should be placed in an easy and elevated position, lightly covered, and slightly stimulating lotions applied. If local reaction threatens to be severe, painting the part with the compound Tincture of Iodine has been found most serviceable. If vesicles appear they should be opened by small punctures, and lint applied, spread with a mixture of equal parts of lime water and cod-liver oil, which has the effect of relieving the burning and smarting sensation, probably by protecting the ulcerated surface from the action of the atmosphere.

Should the part lose its sensibility, become colder, assume a purplish, mottled or greenish-black hue, vesicles filled with *dark fluid* rise upon the surface, and the swelling, at first hard and tense, put on a doughy character; then we have gangrene to deal with, and should treat it accordingly, by mild local antiphlogistic treatment: and if there is much local tension, by free incisions. When fœtor appears, it should be diminished by antiseptic applications, such as carbolic acid, the chlorides and charcoal. If the gangrenous parts are large, these substances may be applied in the form of solution, or the charcoal may be dusted upon the part; if small, they may be used in poultices.

The sloughs should not be pulled away, nor should stimulants be applied to the living tissues, unless the sloughs do not readily separate, but diluted balsam of Peru, very dilute nitric acid, or opiate lotions may be applied. Parts quite dead, but that do not separate readily, such as tendons, ligaments, and bone may be cut off. But nature should be allowed to *eliminate all small parts*, such as fingers and toes. Amputation may be performed where the part involved is large, as an arm or a leg.

That the elimination of all small parts should be left to nature, I may quote Mr. Baudens, whose experience among soldiers returned from the Crimea was very great. He says that: "The surgeon should abstain and "consign exclusively to the reparatory efforts of nature the care of elimi- "nating the parts that have mortified as a consequence of congelation. "Nature traces the lines of demarcation between the living and dead "parts far better than the hand of the surgeon, and especially at the "price of far less sacrifices. The rules of art indicate certain places of "election for amputation, that often entail the sacrifice of portions of "limbs capable of preservation, but nature, essentially conservative, "removes nothing but that which cannot live. The portion of bone to "be eliminated becomes dry, black, and projecting. The soft parts "which remain at its base, swell, become covered with granulations and "gain upon the bone. This soon comes away of its own accord, whether "separated in its continuity by the process of necrosis, or in its con- "tiguity by the destruction of its connexions. After its fall a deep "cavity remains, which is rapidly filled with granulation, and the stump, "thus well cushioned by the soft parts, is placed in the most favorable "condition."

In conclusion gentlemen, let me bring under your notice a case bearing upon this subject that has caused not a little litigation in the adjoining county of Charlotte, one in which we are all more or less interested; for no man knows when it may not be his lot to be placed in the defendant's position. Professional standing, character, or rectitude of conduct will not exonerate him from attack, and, judging from past experience innocent or guilty he *must pay* the penalty. I allude to the prosecution of Doctor Robert Thomson, of St. George.

It appears that a man by the name of Kay (during a state of intoxication) had been frost-bitten. The Doctor saw him for the first time 12 *hours* after the removal of the frost. From the history of the case he learned that the man had been exposed to a temperature below zero for about 4 *hours after* sensibility in his extremities had been lost. After the arrival of the man at a house he was placed in a moderately warm room

and the parts were immersed for *half an hour* in cold water, and during the time they were in the water scales of ice formed upon them. Immediately after being taken out *blood flowed from under the nails.* The parts were then wrapped in *warm flannels.* When the Doctor saw them, they were very much *swollen, painful, dark-red* or *purple,* and " *covered with blisters containing blood* and *water.*"

The vesicles were opened and poultices composed of meal, hops, yeast and charcoal applied. About 6 hours after this a nail of one of the fingers fell off, and in a few days several others. Ultimately mortification took place, and nature was allowed to eliminate the parts.

Circumstances prevented the Doctor from visiting his patient oftener than once in about 10 days, but during the interval he received frequent reports of the case, and gave written directions, treating it as one of mortification.

The 1*st.* question to be considered by the medical witness: Was the exposure such as to cause a *severe and dangerous frost-bite?* This question must be answered in the affirmative, (from the acknowledged fact that the parts had been exposed to a temperature below zero, for *upwards* of *four hours* after sensibility in them had been lost) upon the principle that the frozen part will continue to receive and retain cold while exposed, in the same manner as a piece of ice.

2. *d.* Was the frost properly removed from the part?

This question must be answered in the negative. The patient should not have been placed in a warm room, the cold water was not continued long enough, and warm applications at such an early period were highly objectionable.

3*rd.* Did not the dark appearance of the parts, the swelling, pain, and above all the *vesicles containing blood* and water, with the *nails falling* off so early, justify the conclusion that such an amount of disorganization had been produced that mortification must follow?

I think few medical men could be found who would hesitate to arrive at such a conclusion. Yet Drs. Gove and Black declared that hot applications at the time they were used were not objectionable; that vesication, falling off of the nails, pain, redness, and swelling *indicated such vitality that the parts should have been saved,* and that the death of the parts was caused by the application of the *charcoal.*

I will not stop to combat such opinions, but simply state that assertions like these, made in a witness-box, tend to degrade our profession. Other medical men are compelled to contradict them. Hence doctors get the credit of differing where difference of opinion should not exist. And jurors, unable to form a correct opinion as to who is right, and who is

wrong, lose confidence in medical testimony, and decide the case upon other merits, that should be decided strictly upon scientific grounds.

The jury acting upon this principle gave a verdict of $9,000 against the unfortunate Doctor; illustrating the advisability of submitting all cases of malpractice to the investigation of competent medical experts, who shall decide whether the charge is tenable or not, and upon whose decision the trial shall proceed or fall to the ground. In other words, the medical man should be tried by his peers, by men capable of pronouncing upon his guilt or innocence.

St. John, N. B., July, 1870.

Case of Elephantiasis Arabum of the right leg, treated by Ligation of the Femoral Artery. By D. C. MacCallum, M.D., M.R.C.S., Eng., Prof. of Midwifery and Diseases of Women and Children McGill University, &c.

The November number of the *St. Louis Medical and Surgical Journal* was lately sent to me by my friend, Prof. G. W. Campbell, who, the same time, called my attention to a communication which it contain on Elephantiasis Arabum from the pen of Prof. Bauer, a gentleman we known to the profession in Canada. In this article, a Chronological Table is given of the known cases in which ligation of the main artery of the limb was performed for the relief or cure of the intractable disease under consideration; and Prof. Campbell noticed that no mention was made of a case that was so treated in the Montreal General Hospital in the month of April, 1859, and which was the first operation of the kind performed after those of Prof. Carnochan of New York, the surgeon who first proposed and carried into effect this bold and original treatment of Elephantiasis. The truth is, the case has never been placed on record. Shortly after the operation, I wrote a brief account of it to Prof. Carnochan promising to publish the case later, and send him a copy of the article. The notes of the case, however, unaccountably disappeared, and I recovered them unexpectedly only a few months ago. As this treatment is exciting some attention at present in the surgical world, I have thought that it would be well to publish the notes. They are as follow:—

J. W., aged 20, was admitted into the Montreal General Hospital, January 24th, 1859, suffering from Elephantiasis Arabum of the right leg.

He states that, as far back as he can remember, his limb has been enlarged. His parents told him that the swelling first appeared after the

subsidence of an eruption on the skin of the lower extremities. The limb has of late years increased much in size, become weightier and more unmanageable. He has never experienced any pain in it, but has observed that after exposure to wet or severe cold, the affected part became more tense, and was accompanied by a feeling of general uneasiness and a feverish state of the system. The Elephantiasis is confined to the right leg, and principally to the part between the ankle and knee joints, although there is considerable swelling above the knee. The surface is rough and nodulated, and intersected by fissures varying in depth. From these fissures, at times, a thin discharge distils, which in drying forms brownish looking scales. The skin and subcutaneous cellular tissue are much hypertrophied, and exceedingly dense and inelastic. For a period of fourteen years he has not been able to flex his foot, in consequence of the resistance offered by the hardened tissues at the ankle joint, and he has had but a slight degree of motion in the joint during that time.

From the date of his admission until the 30th April, a period of three months, the patient had been placed under what has been considered the most approved forms of treatment, but without deriving the slightest benefit from them. In the month of February a very large abscess formed in the upper part of the thigh of the diseased leg, which in due time was opened, giving exit to a large quantity of fœtid pus, of a greenish colour. On the 30th April, having called a consultation and obtained the consent of my colleagues, I ligated the femoral artery in Scarpa's triangle. The vessel was exposed without difficulty, and found to be perfectly healthy. The patient progressed favorably, and the ligature separated on the 21st day. Measurements of the limb were taken at the date of the operation and again on the 3rd May, three days after, and on June sixth, when he was walking about the ward. The differences are exhibited in the following table:—

CIRCUMFERENCE.	DAY OF OPERATION, APRIL 30TH.	3 DAYS AFTER, MAY 3RD.	5 WEEKS AFTER, JUNE 6TH.
At Malleoli	12½ inches	11 inches	10½ inches
5 in above	13¾ "	11 "	10½ "
7 " "	14¼ "	12 "	11 "
10 " "	15 "	13 "	11¼ "
12 " "	14½ "	12½ "	11 "
Lower Border of Patella	14¼ "	13 "	12 "
Upper do do	15 "	13½ "	12½ "
Mid third of Thigh	15¼ "	14½ "	14½ "

Some months after J. W. was discharged from the Hospital, he was again admitted by Dr. Fraser for abcess of the upper part of the right thigh.

I met him two years after the operation, and on examining the limb, found it enlarged from œdema; the skin and cellular tissue had lost, however, all the characteristics of Elephantiasis. He informed me that so long as he kept the limb carefully bandaged the œdematous swelling was absent. He had become very dissipated in his habits, and was a frequent inmate of the Montreal General and Hotel Dieu Hospitals. I am of opinion that had he been a person of strictly sober habits, and had he given given the limb proper support for some time, he would not have suffered from the œdema which so frequently troubled him. It is quite possible, moreover, that the two large abscesses in the upper part of the thigh for which he was treated, had as much to do in causing the subsequent œdema, as had ligation of the femoral artery.

Extract from a Thesis on the Antiseptic Properties of Camphor. By J. M. Dunsmore. Presented before the Medical Faculty of McGill University, Montreal, for the degree of M. D. C. M. Session 1869-70.

I have been induced chiefly through the representations of Dr. Coleman of Seaforth and Drs. Hornibrook and Davison of Mitchell, Ontario, to write on camphor, in order to bring its use as an antiseptic in surgery under the notice of the Medical Faculty of this University. I do so with confidence, believing that such a liberal and enlightened body of men will treat the subject as its merits deserve. If the result prove unfavorable, the consolation will remain of having erred in company with men of large experience, one of whom, Dr. Coleman, can point to a quarter of a century's successful practice to give weight to his opinion.

Antiseptic Properties.—Among the many virtues ascribed to camphor by the non-professional public its antiseptic properties seem to have been long recognised and highly valued; but whether the attention of the profession has yet been directed to its use as an antiseptic in surgery I have been unable to ascertain, either from books or any other reliable source. That such a property should exist in camphor without being generally applied to the purposes of surgery is not to be wondered at, as not until within the last few years has any considerable attention been given to antiseptic surgery, and carbolic acid has been the agent employed to the exclusion of all others. Nor is the facility with which camphor may be obtained, and its common use as a domestic remedy a good reason why it should not possess properties unknown to, or unrecognised by the profession. Some of the most important discoveries in medicine have originated with the non-professional. Jenner received his first hints of the prophylactic powers of vaccination from a dairy maid of

Gloucestershire, and long before Lænnec commenced his series of observations that led to the invention of the stethoscope, the attention of the profession had been called, though in vain, by a civil engineer of London, to the importance of auscultation in diagnosing diseases of the internal organs. But my object here is not to speculate. According to the testimony of at least three medical men of good standing, camphor has been used in their private practice during the last twelve or eighteen months in cases similar to those in which carbolic acid is recommended, and they have found it very effective as an antiseptic. Dr. Coleman, who has used the camphor treatment somewhat extensively, speaks positively of its efficacy in all cases where carbolic acid is indicated. In a recent private communication on the subject he says:—"I have used the Camphor treatment in many cases besides those referred to, and always with the happiest results. In several cases I have put the comparative values of the treatment of carbolic acid and camphor to a differential test, and I can positively affirm that in every case the weight of usefulness was on the side of the camphor treatment."

The result of the treatment in the appended cases leaves but little room for doubt that camphor is a valuable agent in the treatment of wounds; but whether it be as powerful an antiseptic as carbolic acid is a question I shall not attempt to argue, the evidence which has been hurriedly collected being perhaps insufficient to prove this point conclusively.

Case 1.—K. McL., age 30, on September 12th, 1868, had his right hand accidentally caught with a chain, the blunt hook of which entered the palmar surface of the middle finger at the metacarpo-phalangeal articulation, lacerating the integument and deeper structures the whole length of the finger, and leaving a gaping ragged and decidedly nasty looking wound, with the glistening tendons plainly exposed but not torn.

Treatment: Make a lotion of spirits of camphor and water in equal parts. Saturate a cloth with the lotion and apply round the finger. Bandage loosely and support with roll of bandage round each of the proximate fingers. Keep slightly moistened with water but not enough to chill the surface of the finger. Wound to be dressed every day as above. No adhesive straps or sutures were used.

Sept. 17th.—Very little swelling; edges of wound approximated; integument reunited to parts beneath; plastic lymph effused between the edges of the wound. Continue treatment.

After this the wound healed rapidly, the finger being left quite straight and free from contraction.

During the whole process of healing there was no purulent formation:

Case 2.—January, 1869. J. S., age 22, while chopping, the axe glanced, cut through the boot, and took a slice off the metatarso-phalangeal articulation of great toe of right foot. The axe entered about an inch from the articulation on the phalangeal side and cut backwards through the joint, raising a flap two inches in length and an inch and a half wide. A paring of bone a quarter of an inch in thickness was attached to the flap. The wound was not dressed, except with temporary bandages, until twelve hours after the accident. The flap was then withered, much serrated at the edges, and possessed little sensation; it fell far short of coaptation. There had been considerable bleeding.

In dressing this wound eight silver sutures were put in, and owing to the contraction of the flap the wound now presented the appearance of nine elliptical gaps. No adhesive straps were employed. A piece of very thin old cotton folded and saturated with spirits of camphor was applied to the wound, and over this another cloth wet with water, the latter to be changed as often as necessary to keep up slight moisture, the spirits of camphor to be applied three times a day.

On the fourth day the flap had lost its contracted appearance; inflammation slight; union had taken place by first intention.

The sutures were removed on the eighth day without in the least disturbing the union, a feat not generally accomplished when wire sutures are used.

If pus had formed in either of the above cases with the consequent result of slow granulations, no doubt the utility of the finger in case 1. would have been impaired, and in case 2. painful articular inflammation would have been the result.

Case 3.—This is a case similar to the former (No. 2.) The accident occurred on March, 4th 1869, the subject being an active man, middle age, married. The wound in this case was behind the joint on the inner side of the left foot. Comminuted fragments of the bone adhered to the flap, and a splinter of bone extended forward to the joint. None of these were removed.

The treatment was similar in all respects to that adopted in case No. 2, only that the lotion used in the after dressing was composed of equal parts of spirits of Camphor and water.

The case progressed very favorably, no pus having formed during the whole process of healing. In fifteen days the wound was quite healed, some slight tenderness only remaining, and this was probably due to the fracture extending into the joint.

A circumstance worthy of note in this case is that the patient after the

first four days walked about with the aid of a stick, and persisted in attending to light farm duties.

Case 4.—Geo. B, a child, age 5 years, suffering from Morbus Coxæ. Had been under treatment for five months according to Dr. Sayer's method. At the part where the adhesive plaster was applied externally as a fulcrum for extension a large slough formed, and lumps of curdy matter, flakes of fascia, and fœtid purulent matter were thrown off. For a considerable distance round the sore there was much swelling with tenderness on pressure. Fever at night. For some time the child had been allowed to go round on crutches. Was again confined to bed, and extension from the foot applied with counter extension from the groin. A pad saturated with spirits of camphor was kept continuously applied to the sore. The effect of this treatment was very decided. The swelling and tenderness soon disappeared, the formation of unhealthy pus ceased, and the discharge was no longer fœtid as it had been before the application of the camphor.

Case 5.—C. R, a mechanic employed in the Mitchell foundry, age 42, June 7th. 1869, had a portion of the middle finger of one of his hands sawn off, the middle joint of the index finger cut open, and a piece chipped off the articular surface of one of the bones of that joint.

It was found necessary to remove the remaining portion of the middle finger—the index finger getting the benefit of a doubt of the possibility of saving it. On dressing the wound after applying the adhesive straps the bandages were wet with a lotion composed of equal parts of spirits of camphor and water. The patient was also directed to keep the bandages constantly moistened with the same lotion.

The wounds were examined on the sixth day, and there was then no suppuration—union had taken place by first intention. The patient was ordered to continue the lotion. The wounds remained united, and no further dressing was required.

Case 6—J. B., age 15, had his hand torn with a circular saw on the 28th of May, 1869. The thumb fore finger, and middle finger were completely torn away and the adjoining parts much lacerated. The wound was dressed in the usual way and the following lotion applied:—Camphor ℥ j, Spts. Rect, oj, aq. oiij; the wound and hand to be kept constantly wet with the lotion. In three days union had taken place throughout the whole wound except at the points where the ligatures were left. On the tenth day the ligatures came away, and during the whole time no perceptible discharge of pus took place.

Case 7.—H. B., age 12, August 5th, 1869. Cut with a scythe on the

anterior part of the leg from below upwards, lifting a flap two and a half inches in length, laying bare both the tibia and fibula, and severing the anterior tibial artery. The wound was dressed with sutures and adhesive straps and the same lotion as in case No. 6 applied. The wound was examined on the seventh day and the sutures removed; complete and firm union had taken place, and there was not the slightest appearance of pus. The ligatures came away on the fifteenth day.

Case 8.—Jas. H., age 38, August 17th 1869, while attending a sawing machine had his little finger jammed between two logs. Examined the wound for Dr. Davison a few hours after its occurrence and found two lacerated and contused wounds extending the whole length of the finger, one on the palmar and the other on the dorsal aspect, and also a compound fracture of the second phalanx. The extensor tendon was severed near the last articulation and torn out of its sheath backwards to near the seat of fracture, and a portion of the second phalanx was completely divested of periostium. The two wounds communicated freely with each other both on the outer and inner side of the finger, the integument and parts beneath being completely raised from the bone. The finger was literally burst to pieces. In dressing, the wounds were well syringed out with spirits of camphor, and the finger put up on a splint, the bandages being moistened with a lotion composed of equal parts of spirits of camphor and water. The patient was ordered to keep the bandages constantly moistened with the same lotion. Six days afterwards: no appearance of suppuration; finger reduced to near its normal size; wounds apparently healed except at the point opposite the denuded bone. The man had continued at work after the first few days.

The foregoing cases occurred in the practice of the surgeons whose names are given in the note to the introduction. There are also many other cases not reported where the camphor treatment was adopted by them with equal success.

As yet the camphor has been used as an antiseptic only in the form of a lotion. This form may be objectionable, as the sparing solubility of camphor in water causes a precipitate to be formed when water is added to its solution in spirits. The same objection would not apply to camphor oil, camphor putty &c., which might be used in the same manner as the corresponding preparations of carbolic acid.

Hydrate of Chloral in Cerebro Spinal Meningitis. By J. B. Chagnon, St. Pie, Province of Quebec.

A. B., a young girl of 12 years was taken sick on Monday, June 6th, with the following history related to me by her father two days after,

being the date of my first visit to her. Whilst playing out doors with her sister, she suddenly entered the house exclaiming that she had a most distressing headache running down to the back of her neck. Cold water was applied to her forehead, with no relief whatever. Soon after she complained of the pain running down to her stomach, then up to her throat with some feeling of suffocation.

Her parents and the neighbouring friends having diagnosed the case to be *worms*, five lozenges were administered, followed in the morning by a tablespoonful of castor oil. Success did not answer their expectation, when at noon of the following day, another dose of oil was given; and so she spent the second night of her illness tossing about and rolling herself in her bed. Then I was called and found her with the following appearance:—She was laying on her side with her head thrown back between her shoulders. I tried to give it its natural position, but in vain, so intense was the rigidity of the posterior cervical muscles. Excruciating pain was felt by pressure all over the spinal column; legs were flexed on the thighs; the mere touch to the skin was sufficient to bring a nervous shock. Trismus was almost complete, and the power of deglutition seemed to be much impaired. She was unconscious and the general character of fever seemed to be one of typhus; tongue parched, brown and contracted; black sordes on teeth with fœtid breath; eyes somewhat sunken, and pupils dilated during remissions, but contracted to a pin's head during paroxysms; for though of a typhus character, the fever had a remittent type. Skin dry but not very hot; thermometer marked 102; pulse 120, small and hard. By uncovering the chest and abdomen, numbers of petechiæ could be seen; some very small, some others as large as a French pea. The same was observed on arms and legs, but very few in number; bowels constipated, had not voided urine for last twenty hours.

As regard to treatment; having considered that almost all recent authors disagree in this respect, some placing their chief reliance in opium alone, some others in antiphlogistic means; this authority in mercury, that other in stimulants, and according to statistics, I regret to say, with so little benefit, I thought myself justifiable in adopting a new one, and on that account I was induced to try the effects of chloral. The intestines having been cleared out with a brisk cathartic, head shaved and cold water applied to it, 12 grs. of chloral were given, patient having previously been removed into a dark room.

At 12 o'clock, four hours after, I found patient in a profound slumber which she had not had since the very first hour of her illness. I left, ordering to repeat same dose every few hours, according to the length of rest and intensity of pain.

June 9th, 8 a.m.—Patient more composed, had slept in all, about ten hours; had taken three doses of chloral, had another evacuation from her bowels and voided half a pint of high colored urine. Seems to be more conscious, pupils moderately dilated, muscular rigidity the same, pulse 118, temperature in the axilla 101; rejects any kind of food; treatment continued.

June the 10th, 8 a.m.—Much the same as yesterday; treatment continued.

June 11th, 10 a.m.—Patient more sensible, tries to answer questions but unable to do so; skin perspiring freely; temperature reduced to 99, pulse 112; has swallowed a few spoonfuls of milk; same rigidity in posterior muscles. Five doses having been administered in last twenty-four hours with rest after each dose; treatment continued.

June 12th.—Has perspired all last night most freely; recovered conciousness and can answer in monosyllables; pulse and temperature, same as yesterday; petechiæ fading off; tongue less dry and lips covered with an eczematous eruption; seems to be a little deaf: eight grains of chloral to be given every five hours.

June 13th.—Deafness has increased, though her intellect is more bright; temperature natural; bowels in good order and urine less loaded; pain almost *nil* except by moving her. Has hardly any pain by pressure on spinal column, though her head is yet rigidly thrown back on shoulders, trismus less severe and the power of deglutition much improved.

Ordered 10 grs. chloral twice a day.

June 14th and 15th.—Same appearance in disease, same treatment continued.

June 16th—Patient completely deaf and rigidity of cervical muscles the same, but much less painful in attempting to reduce it by force. She is gaining rapidly in every other respect.

Ordered 10 grs. chloral at 9 p.m.

June 19th.—Much better, sits up in bed half the time, less rigidity of neck; can swallow well, but seems to have no auditory organs whatever.

June 25th.—Appetite good; gaining strength: hardly any rigidity of posterior cervical muscles, sits up all day: complete deafness.

Chloral discontinued.

June 30th.—Patient improving much, but feels great weakness in her back, cannot stand in the erect posture without help.

July 18th.—Can stand up and walk, but her gait is most unsteady. Though she is in full convalescence, there seems to be no amelioration in the organs of hearing.

Remarks.—Two prominent points may be worth consideration in this case: 1st. the exhibition of chloral, which I think has never been administered before in this disease, the benefit obtained with it and its *modus operandi*. 2nd. Complete deafness along with convalescence.

As to the *modus operandi* of chloral in Cerebro Spinal Meningitis a great discordance of opinion may be maintained respecting it; since the disease is, with few exceptions, among authors regarded as inflammatory whilst chloral has never until now been looked upon as an antiphlogistic agent.

Although the question of its being a good hypnotic is well settled, chloral most certainly acts on the vasa motor nerves and this accounts for its antiphlogistic virtue. Further experiments and practical observations will most probably before long, make the medical profession better acquainted with its true therapeutical qualities.

Deafness resulting in this case is rather due to the usual consequences of inflammatory diseases, viz: lesion of nervous tissue, as thickening, or effusion, than to a simple want of nervous power and consequent absence of function. If so, chloral may then be regarded as having antiphlogistic properties, since it undoubtedly proved to be the fact in the present case.

St. Pie, P.Q. 28th July, 1970.

HOSPITAL REPORTS.

MONTREAL GENERAL HOSPITAL.

Cases in Medicine and Surgery under the care of Dr. D. C. MacCallum.

CASE 5.—*Removal of a Deep-seated Cystic Tumor of the Neck.* Reported by Mr. THOS. G. JOHNSTON.

Leonore L———, æt. 16, Canadian, a delicate anæmic looking girl, was admitted into the Montreal General Hospital August 1st, suffering from some digestive disorder with slight debility, from which, under appropriate treatment she quickly recovered. While under treatment it was observed that she had a large cervical tumor which caused considerable deformity. She stated that it had been coming on gradually for two years, and expressed a wish to have it removed if it could be done with safety. Upon examination it was found to be cystic, deeply seated beneath the sterno-cleido-mastoid; projecting anteriorly into the submaxillary and superior carotid triangles, and posteriorly into the occipital triangle; it was soft, about the size of a lemon, and quite moveable. Its strongest point of attachment seemed to be to the tissues in the occi-

pital region as it was much more easily moved from before backwards than from behind forwards, although the greater part of it lay anteriorly to the muscle. It was also very firmly attached by its upper end which extended well up to the mastoid process of the temporal bone. Its nature and attachment having been, as far as possible, ascertained, its removal was decided upon.

August 8th.—Chloroform having been administered, Dr. MacCallum made a vertical incision extending from near the apex of the mastoid process to a point about opposite the transverse process of the fifth cervical vertebra, dividing at its upper end a few fibres of the sterno-mastoid, and exposing the cellular tissue immediately investing the sac of the tumor. In this tissue overlying the tumor was seen the spinal accessory nerve with some branches of the cervical plexus. These having been carefully dissected off, were, together with the sterno mastoid, drawn well forward by an assistant, while the sac was at the same time pushed backwards beneath the muscle, thus exposing it to its fullest extent. It was then seized with a pair of bull-dog forceps and drawn out, when, by passing the handle of the scalpel around it, and by a few slight incisions its removal was completed. In the bottom of the wound could be seen the sheath of the carotid vessels laid bare for about an inch, while by passing in the finger the common carotid could be distinctly felt pulsating at its bifurcation. The whole operation was attended with the loss of but little blood, the principal hæmorrhage being from a small vessel cut through in the first incision, the bleeding from which was easily controlled. The wound was then washed with carbolic acid lotion 1 to 30, closed by means of metallic sutures, and dressed with a pad of lint soaked in the same lotion, covered with oiled silk, and kept in place by a light bandage around the neck. The tumor weighed ℥ iij and contained about fl ℥ iiss of a milky fluid. Its removal was at first contemplated by an incision made anteriorly to the sterno-mastoid where the greater part of the tumour lay, but an incision posterior to that muscle was preferred for the following reasons:—1st. The bulk of the tumour was so moveable that it could be easily pushed beneath the muscle from before backwards. 2nd. The posterior incision avoided the external jugular vein. 3rd. The cicatrix would be in a less exposed situation.

August 9th.—Dressings not touched, except to inject some of the lotion beneath the oiled silk. Slept well last night, and, with the exception of slight stiffness in the neck, feels quite comfortable.

August 16th.—Wound was healed by the first intention; sutures were removed on the 11th and 12th. No pus was formed, and as far as the operation is concerned, nothing now remains to prevent her discharge

from Hospital. The dressing used throughout was lint saturated with carbolic acid lotion 1 to 40, and, with the exception of the day succeeding the operation, was changed daily.

CASE 6.—*Gun Shot Wound of the Arm and Back with Injury of the Lung.—Pleuro-Pneumonia—Pericarditis—Erysipelas—Death.* Reported by Mr. JOHN H. MATHIESON.

D. C., æt 25, was brought to the Montreal General Hospital on the 20th July, 1870, at 11 a. m., with a gunshot wound which he had received about half an hour previously. He is of a light complexion, pale and cachectic. Has been complaining of indigestion, loss of appetite, and general debility for the last twelve months. Is an engine driver, and attributes this indisposition to his occupation. Is not married.

In the morning he borrowed a double-barrelled fowling piece, which, unknown to him, was loaded, and, in company with a friend, was going over the mountain to shoot birds. On the way he handed the gun to his companion and passed on a few steps in advance, when the gun accidentally went off in the hand of his friend. The shot entered the right arm at the outer side, and carried away the whole mass of muscle to the bone, the wound extending from about an inch and a-half above the elbow to within four inches of the shoulder. The periosteum was not injured. The charge then passed into the back, beneath the inferior angle of the scapula, completely riddling a space about five inches square. Many grains grazed the skin beyond this, and some were lodged just beneath the skin, an inch or two from the point of entrance, while others passed out again. The direction of the shot was inwards, (towards the median line of the body) and backwards. From the appearance of the wounds the arm at the time of the accident must have been extended from the body at an acute angle, and carried somewhat backwards. The gun was held horizontally.

About three dozen grains of shot, fragments of cloth, clots of blood, &c., were extracted from the wounds in the back by Drs. Ross and Roddick; the wounds were then brushed over with carbolic acid lotion, (1 to 10); strips of plaster were passed around the arm to bring the edges of the wound together, and the whole dressed with iced carbolic acid lotion, (1 to 40). There was very little loss of blood—no vessels required ligaturing, He has been coughing a little since the accident. The sputa are frothy and streaked with blood. He is said to have "coughed up several mouthfuls of pure blood" immediately after the

accident. The shock has not been very great. Pulse 68. Pulsation as strong in the right as in the left radial.

3 P. M. Pulse 73. He has completely recovered from the shock. He complains of pain in the right infra-clavicular region and in the right hypochondrium, which is increased by taking a very deep breath. Dr. MacCallum examined his chest but found no adventitious sounds. The wounds cause very little pain. There has been considerable oozing of blood from both since they were dressed. He is to have milk diet, with one pint beef tea, one pint tea, and corn starch extra. Ordered Liq. Ammon. Acet 3 i. every fourth hour, and Liq. Opii. Sedativ 3 ss. at night, and before if necessary.

10 P. M. Pulse 77 and full. Respiration 25. No pain in the chest except when he takes a deep breath or moves in bed, he then feels a sharp pain in the infra-clavicular region. No cough. Sputa less frothy and no blood. There is considerable thirst. Tongue dry and clean. Perspiring gently. He got the draught about 7 p. m.

July 21st, 9 A. M. Pulse 72, soft and full. He slept the greater part of the night, but his rest was often disturbed. Appears cheerful. Skin cool and moist. More pain in the chest than yesterday, but cannot detect any crepitation or friction sounds. There is a circumscribed spot of dullness in the mammary extending to the axillary region. Dr. MacCallum pointed out that in consequence of the fixed and quiescent state of the right side of the chest from the torn and painful condition of the muscles it was impossible to detect anything by the stethoscope. He got Liquor Opii. Sedativus 3 ss. this morning.

1 P. M. Pulse 74. He is about the same as in the morning—perhaps a little more restless. Temperature in the left axilla 100¼ deg. F. Ordered a linseed meal poultice on the chest over the seat of pain.

5 P. M. Pulse 96. The pain in the chest is much greater, and is now confined to the right mammary region. Has not had any rigors. He got Liq. Opii. Sedativus 3 ss. about 3 p.m.

10 P. M. Pulse 90 and a little fuller than it was in the evening. He slept about two hours after taking the sedative, and now is much easier. Skin hot, but he is perspiring gently. Can discover no abnormal sounds in the chest. Respiration 30. The wounds both well.

July 22, 8 A. M. Pulse 118, small and feeble. Surface hot and dry. He slept a good part of the night and says he feels better to-day. There is now no pain in the chest. Respiration 28 and moderately full. Urine scanty and high colored. There is no pain in the wound on the back except when he attempts to take a deep breath; small spots of slough

are beginning to form in it. The arm is painful, swollen, and œdematous. A small circumscribed red spot about the size of a penny, has formed on the back of the right hand over the cicatrix of an old sore.

1 P. M. Pulse 124. Temperature 104¾ deg. F. Skin dry. The strips of plaster surrounding the arm for the support of the edges of the wound were too tight, and were divided. The erysipelatous spot has spread—it now covers the whole back of the hand from the clefts of the fingers to the wrist joint. Dr. MacCallum ordered large doses of Tinctura Ferri Perchloridi if it did not stop spreading.

10 P. M. Pulse 112 and weak. Skin hot and dry, lips parched. The pain in the arm continues. The erysipelas has not spread any farther. He, therefore, did not get the iron. His sleep is very light and broken at short intervals. He got a draught of Battley's sedative.

July 23, 9 A. M. Pulse 102 and weak. Slept but little last night, and complains of exhaustion. The erysipelas has disappeared entirely from the hand. Pain in the arm still continues. A large superficial slough has formed over the whole surface of the wound. Many of the slight scratches are healing. The part which was more deeply wounded is very much swollen, and large sloughs are forming. The swelling extends also into the right axillary and infra-axillary regions, and is attended with discoloration and great œdema.

2 P. M. Pulse 104 and fuller than in the morning. Temperature 102¾ deg. F. No cough. No pain in the chest. Skin moist. Tongue clean. Countenance cheerful.

10 P. M. Pulse 120. No pain in any part. Skin is moist. Got a draught of Battley's sedative about an hour ago and feels sleepy. Says he is much better to-night.

July 24, 9 A. M. Pulse 102. Sleep last night disturbed, and some delirium. Temperature 102¼ deg. F. Skin moist. Tongue clean. Has passed very little urine since yesterday morning. Bladder is distended and causes pain. There is very slight pain now in the arm and none in the side. Dr. MacCallum drew off about Oii. of urine with the catheter.

10 P. M. Pulse 112. Skin hot. Is very restless. Pain in the side and arm is increasing. Bladder is again distended. Dr. Rodger removed about Oii. of urine with the catheter.

July 25, 9 A. M. Pulse 96. Temperature 102 deg. F. Did not sleep any last night. Pain in the chest is much greater. On the right side, over greater part, there is entire absence of the respiratory murmur, percussion gives a short, high pitched, hard note. On the left side puerile respiration. Breathing is shallow and a full breath causes pain. There is

a large puffy swelling on the side, anterior to the wound, which is erysipelatous. The wound in the arm looks well—part of the slough has separated. The urine was drawn off this a. m. The arm bandaged from the fingers to the wound, and the edges brought together with plasters.

10 P. M. Pulse 106 and very weak. Is slightly delirious. Extremities cold and covered with perspiration. Forehead and chest hot and dry. Breathing short but causes less distress than in the morning. Pupils contracted. Not much accumulation of urine, and it does not cause any distress. The erysipelas is spreading rapidly towards the spine.

July 26, 9 A. M. Pule 126 and weak. He had a very bad night. got Liq. Opii. Sedat. ʒ ss. but did not sleep. Is delirious, but recognizes persons and answers questions, though not always correctly. He has been sinking rapidly, and Dr. Ross, who has been up with him nearly all night, gave stimulants—wine and brandy. He now appears to be suffering very much. Respiration 40 and very shallow. Eyes are partially closed. Eyeballs rolled up, pupils contracted. The erysipelas covers the whole of the back from the neck to the sacrum, extending forwards on the right side to within two inches of the mamma, and on the left to a line drawn from the axilla to the middle of the crest of the ilium. About Oii. of urine was drawn off this a. m. Brandy continued.

2 P. M. Pulse 120, very weak and thready. Great dyspnœa. The area of dulness on the right side has increased in extent. There is hyper-resonance in front in the infra-clavicular region. The dyspnœa is so great, and the respiration so shallow, that nothing can be ascertained from auscultation. Temperature in left axilla 100 deg. F. Extremities cold and covered with cold perspiration.

11 P. M. Pulse 130. Extremities cold and bathed in perspiration. Head hot. Tongue furred. Lips parched. Dyspnœa has increased. Greater tendency to delirium. Has not had any rigors.

July 27th. He continued to get weaker, and the dyspnœa increased. till 6 a. m. when he died.

Sectio Cadaveris, nine hours after Death.—The whole of the right lung was covered by a false membrane of recently deposited lymph, varying in thickness from one-eighth of an inch to that of bibulous paper. The middle of the lower lobe was consolidated, and in this part what appeared to be a laceration was noticed. On examining farther it was found to communicate with a spot about half an inch in diameter which had undergone disintegration, the tissues being quite soft and friable. Several of these spots of different sizes were found, and in one of them a *grain of*

shot. No more shot could be discovered. The remainder of the lower lobe and the lower part of the middle lobe were very much congested. The rest of the lung was collapsed. There was considerable pleuritic effusion. A roughened membrane of lymph was found on the pericardium at the base of the heart, and extending up the ascending aorta. The valves were healthy. All the other viscera were healthy.

CASE 7.—*Peritonitis caused by a severe blow on the abdomen.*—Reported by Mr. John H. Mathieson.

A. C., æt, 25, was admitted into the Montreal General Hospital, on the 22nd July, 1870, suffering from the effects of a blow on the epigastrium. He works in a planing mill, and received the blow from a plank while feeding a circular saw on the 20th inst. When admitted he complained of great pain in the epigastrium, very much increased by pressure. The slightest touch over the abdomen gave him great pain, and this became intolerable when the pressure was increased. He had vomited some blood before being admitted, and twice since admission there was a very little vomited. Abdominal walls tense. Pulse 110 and hard; tongue dry and covered with a dirty grey fur. Skin very hot. He lies on his back with his knees drawn up and thighs flexed. Countenance anxious and expressive of great pain.

Dr. MacCallum ordered 12 leeches to be applied to the abdomen, to be followed by a large linseed meal poultice; and Pulv, Opii gr. ss. in pill every four hours. Milk diet.

July 23rd. The application of the leeches and poultice was followed by great relief. There was a good deal of blood drawn. Pulse 66 and softer. Slept well last night. Countenance less anxious. Pain is nearly gone and the tenderness is very much less. Skin is still hot, but he sweats freely. There is some nausea with a constant desire to vomit, but he has only vomited twice since yesterday.

July 24th. Pulse 70 ; slept well last night. No pain nor tenderness. Skin moist and not very hot. Tongue very slightly furred. No further tendency to vomit. He was lying on his right side reading when the visit was made.

10 p.m. Pulse 78 and full. Skin moist; tongue clean; countenance a little more anxious, complains of pain upon pressure in the right inguinal and hypogastric regions.

July 25th. Pulse 68. Tongue clean ; no tendency to vomit; tenderness in the abdomen is gone. He slept well last night. Has not had a passage

for six days. Ordered an injection of soap and water and to take the pills thrice daily.

July 26. Pulse 68. No pain. Had a motion of the bowels last evening after the injection. Feels quite comfortable.

July 27. Pulse 70. Is very much better. No pain except when he attempts to sit up, when there is pain in the epigastrium on the spot where he got the blow. He got another injection last night which was followed by two stools.

July 28. Pulse 71. Improving rapidly. No pain. Stop the pills; allowed to sit up for a short time. Half diet.

July 29. Pulse 69. Tongue clean and moist, no fever. Has been sitting up for the last six hours and the pain has returned in the abdomen. No tenderness, however, and supposed to be muscular pain.

July 30. Pulse 70. Does not complain of anything except weakness. Ordered Quinæ Disulph gr. j ter in die. Mutton chop with the half diet.

July 31st. Has muscular pains and cramps through the abdomen. The dark mark produced by the blow is seen quite distinctly extending across the lower part of the hypochondriac and epigastric regions.

August 1st. Pulse 68. Muscular pains quite gone. Has no pain in the abdomen now. The only effect of his illness now is weakness. He left the hospital to-day.

Case 8.—*Acute Rheumatism cured in Seven days by a combined alkaline and blister treatment.* Reported by Mr. John H. Mathieson.

C. M., a coachman, æt 40, was admitted into the Montreal General Hospital on the 2nd August, 1870, with acute rheumatism. He had been very healthy previously.

Eight days ago he felt pains in the back and limbs, attended with rigors and marked febrile symptoms. On the following day he was seized with very severe pains in the right wrist and shoulder, which passed in a few days to the left knee and right ankle. He painted the painful joints with Tincture of Iodine, and took a dose of Epsom Salts.

He now complains of severe pain in the left shoulder and wrist, which are swollen, hot and exceedingly sensitive. There is some pain in the right wrist and knee when moved, but none when at rest. Pulse 94, full and hard; heart's sounds normal. Tongue red at the tip and edges, and heavily coated on the dorsum. Urine strongly acid, scanty, and highly coloured—no sediment. Sp. gr. 1020. Perspiration abundant and acid. He says he has not slept any for the last four nights. Dr. MacCallum

Ordered—Potass Bicarb ℥ j every fourth hour. Pulv. Ipecac Co. gr. x at night. Blisters of Emplast Lyttœ around limb a few inches from the painful joints. Milk diet. Extra 1 pint beef tea.

August 3rd. Pulse 80 and softer; slept about four hours. Pain in left wrist and shoulder is very much less. The swelling, redness, and heat are also diminished. The left ankle is now affected. A large quantity of serum was removed from the neighborhood of the joint by the blisters. Its re-action is neutral. Ordered a blister to be applied above the left ankle.

August 4th. Pulse 78. He is very much better. The pain has left the joints entirely, and he only complains of stiffness. Urine and perspiration slightly acid. Tongue thickly coated with a dark fur. Bowels constipated. Ordered—Haust albus.

August 6th. Pulse 74. No further pain. Tongue clean along the tips and edges. Reaction of urine and perspiration neutral. Ordered—Potass Bicarb ℥ j thrice daily.

August 7th. Allowed to sit up. Ordered—Potass Bicarb gr. xx, Quinæ Sulph. gr. j. Aquæ ℥ ss. Thrice daily.

August 9th.—Pulse 74. Is quite convalescent. Tongue clean—no pain. Urine normal in colour and quantity. Sp. gr. 1018. Reaction neutral. Heart's sounds normal; bowels constipated. Ordered—a Podophylin pill, to be followed by a seidlitz powder.

August 13th.—He has had no farther symptoms of the disease. Has free use of all his joints and complains only of weakness.

Discharged.

Case 9—*Intermittent Fever (Quotidian) treated with large doses of Quinine.* Reported by Mr. Louis T. Marceau.

O. M., aged 21, a sailor, was admitted into the Montreal General Hospital, complaining of *malaise*, headache and constipation. He states that he is a resident of Quebec, but that during the summer months he works on a boat that runs between Ottawa and Whitehall. He is obliged to work hard and is much exposed to cold and wet. When he was last at Whitehall on July 12th, he was seized with a violent headache accompanied by vomiting. This pain in the head was more severe on the next day, and in the evening he had an attack of severe shivering followed by fever and perspiration. These attacks have returned every day up to the present, July 26th. The patient has a very sallow, anæmic appearance. He looks and feels very dull and depressed; complains of a

hammering sensation in his ears. Has no appetite; tongue pale and coated with a light fur; bowels constipated; pulse 92; increased heat of skin. No enlargement of the spleen; blood, examined by the microscope, appears normal. He was ordered a purgative, to be afterwards followed by 30 grains of quinine to be given in three doses during the intermission. Full diet.

July 27th.—Had an attack last night, but it was much milder, 5 grains of quinine three times a day.

July 28th.—No paroxysm. Still feels dull and heavy. Pulse 80. Less heat of skin.

2 grains of quinine three times a day.

July 29th.—No paroxysm, Is much improved in spirits, expression of countenance not so dull and stupid, tongue not so coated, pulse 72, temperature of skin normal. Has had no action of the bowels since last purgative. To get 10 grains compound colocynth pill.

August 1st.—Left hospital to-day, looking, and as he said, feeling like a different man.

CASE 10—*Intermittent Fever (Tertian) treated with large doses of Quinine.* Reported by Mr. G. O'D. WALTON.

G. H., a sailor, was admitted into the Montreal General Hospital, July 19th, complaining of great weakness and constipated bowels.

He states that he is ordinarily strong and healthy, but that in his last voyage from Liverpool he was almost starved in consequence of the bad quality and insufficient quantity of food furnished him. He is quite anæmic in appearance, and the expression of his countenance is dull and depressed. He was placed on full diet and treated with occasional laxatives, and a tonic mixture, but did not seem to improve.

On the 26th July, at 9 a.m., he had a severe chill, followed by dry heat which again was succeeded by profuse perspirations. This being regarded as a paroxysm of fever and ague, he was questioned as to whether he had ever suffered from a similar attack, when it was elicited that he had been subject to them at intervals for many years. An investigation of the spleen did not show any increase in size, and the microscopic examination of the blood did not exhibit any alteration in the normal proportion of the white to the red corpuscles. It was decided before altering the treatment, to wait for another paroxysm, and ascertain the type of the disease.

July 28th.—Had another attack similar to the former, commencing at the same hour in the morning and extending over the same period of

time. Dr. MacCallum ordered the present treatment to be suspended and quinine sulph: gr. v. to be given every fourth hour.

July 30th.—No paroxysm to-day. Says he feels stronger and better than he has for some time. Has taken 12 doses of quinine (60 grs.) As he complains of slight headache and nausea, the dose is reduced to 2 grains of quinine three times a day.

August 1st.—No paroxysm. Is quite cheerful, and confident that he is again able for his duties. Discharged.

REVIEWS AND NOTICES OF BOOKS.

Anatomy, Descriptive and Surgical. By HENRY GRAY, F.R.S., &c., &c. The drawings by H. V. Carter, M.D., late Demonstrator of Anatomy at St. George's Hospital, &c. Edited by T. Holmes, M.A., Cantab; Surgeon to St. George's Hospital, &c., &c. A new American from the fifth and enlarged English edition, with four hundred and sixty-two engravings on wood, pp. 876. Philadelphia: Henry C. Lea, 1870. Dawson Brothers, St. James Street, Montreal.

Gray's Anatomy has been a favorite text book ever since its first appearance in 1858, and has been in very general use by student and practitioner. A fifth edition of this valuable work will be welcomed by those who, during the past year or two, found some difficulty in obtaining a copy.

The editor has somewhat altered the plan of the work, as he has collected that portion on General Anatomy which, in former editions, was scattered throughout the book, and formed of it an introductory chapter. This introductory chapter has been re-written, and gives the student a succinct but clear view of the study of Microscopic Anatomy. To this has been added a short description of the processes which mark the development of the ovum from fecundation to maturity. This portion of the work is new material, as, although it may be regarded as pertaining to general Descriptive Anatomy, it has been omitted in previous editions. We next have, as necessarily accompanying a description of the development of the ovum, a chronological table which has been translated from the work of Beaunis and Bouchard, with some slight alteration. This introductory material is not intended to supersede or in any way interfere with works on physiology, nor does it dip into doubtful subjects of Microscopic Anatomy. The object of the editor is to give to the student in a small compass, and in simple language, a plain account of

facts universally admitted, and which, with industry and moderate work he can demonstrate for himself. The illustrations in the chapter on General Anatomy have been borrowed from the works of Kolliker, Todd and Bowman, Wagner, Harley and Brown, Beaunis and Bouchard, and other well-known authors.

The rest of the work is brought down to the present day, and is illustrated throughout. The illustrations are beautifully executed, and render this work an indispensable adjunct to the library of the surgeon. This remark applies with great force to those surgeons practising at a distance from our large cities, as the opportunity of refreshing their memory by actual dissection is not always attainable. The work as issued from the press of Mr. H. C. Lea, is highly creditable to that well-known firm, the paper is all that can be desired and the type is clear and well impressed. It is to be had of Dawson Brothers, St. James Street.

A Guide to the Examination of the Urine—for the practitioner and student. By J. Wickham Legg, M.D. Second edition. Philadelphia: Lindsay and Blakiston, 1870. Montreal: Dawson Brothers.

The important part which the urine now plays in the diagnosis of many diseases renders it necessary that every physician should be familiar with the examination of this fluid in its normal and abormal condition. As a guide to those who are engaged in the study of this subject whether student or busy practitioner, we do not believe they can find a work more suited to their wants than the one now before us. A mass of most valuable information is condensed within a limit that is simply surprising. We have read it carefully from the commencement to the end, and can easily understand how, within two months from its first appearance, the whole of the first edition was sold and a new one demanded. We need scarcely add that we cordially recommend the little volume to the notice of our readers.

A Practical Treatise on the Diseases of Children. By Alfred Vogel, M.D., Professor of Clinical Medicine in the University of Dupat, Russia, translated and edited by H. Raphael, M.D., late House Surgeon of Bellevue Hospital, New York. From the fourth German edition, illustrated by six lithographic plates. New York: D. Appleton & Co., 1870. Montreal: Dawson Brothers.

Within the last few years works upon the diagnosis and treatment of diseases peculiar to infantile life have multiplied to a miraculous extent.

A field of study, peculiarly hard to work in, and with but few workers, has of late years been filled with observers and we are every now and again getting their results in works published. Upon the continent of Europe Dr. Vogel, the author of the work now before us, has a high reputation in this particular department of medical science, and his book has been translated into Russian, Polish and Dutch. The present is the first English translation which has appeared, and if we may judge from its style we should say that it was an admirable one. Anything coming from the pen of a man so distinguished as is Dr. Vogel must be worthy of commendation, and it is especially in the diagnostic and pathological part of the work that this volume exists. Nothing could be more admirable than the description of the pathological appearances observed—they are admirably full and clear—the veriest tyro in medical science can comprehend them. In the treatment of infantile diseases, we must confess we find Dr. Vogel's work decidedly weak—many of the most famous remedies in certain diseases not being even alluded to—for instance, under the head of treatment of pertussis we do not find the slightest notice of the use of bromide of potash, bromide of ammonia, or nitric acid—all remedies which have been found decidely useful in this disease. In noticing the treatment of scarlet fever, there is no mention of the use which the sulphites may be put to; and without arguing the point, as to the usefulness in this disease, the simple fact that they are so employed by many should at least have caused the fact to be noticed. We simply take these two as illustrations. We find many omissions quite as striking—but those we have mentioned will suffice; while therefore we willingly admit that from the work as a whole, there is much information to be gained, we cannot recommend it as a text book—such as we could Churchill or West. To the student of infantile diseases it will be welcome, for, as we have already mentioned, on the pathology it is exceedingly complete. It has several admirable lithographic plates, one of them showing very clearly the fœtal circulation.

The Practice of Medicine. By Thomas Hawkes Tanner, M.D., F.L.S., Member of the Royal College of Physicians, fifth American —from the sixth London edition, enlarged and thoroughly revised. Philadelphia: Lindsay & Blackiston, 1870. Montreal: Dawson Brothers.

The name and the fame of Dr. Tanner, as one of the most active, searching, and successful physicians of the present, day is becoming thoroughly known and appreciated wherever the English language is

spoken. First and perhaps best known as the author of "Tanner's clinical medicine," a work in the hands of nearly every medical student of the present day, he is now becoming equally well known by his extensive work upon the practice of medicine, which has within the last ten years run through some five editions. Each one has outgrown the other in size, till the present volume is so ponderous as to be almost unwieldy, it having attained the enormous number of twelve hundred pages. Some idea of the amount of new matter in the present edition may be had when we state, that it contains *four hundred* pages more than the edition bearing the imprint of 1866, the last previous one issued. After having made this comparison we can easily believe what Dr. Tanner states in his preface, viz:—that every page has been carefully and deliberately revised. We especially notice that the treatment of diseases has received, perhaps, more than any other portion of the work the attention of the author, and we can readily understand why it should be so; for since the edition of 1865 passed from his hand our knowledge of disease and its treatment has been steadily advancing. The style adopted by Dr. Tanner is one peculiarly his own, being true and concise; at times we think too much so, for we fancy we notice instances where the subject has in some measure been sacrificed for the sake of conciseness. Altogether the work is one that the practitioner will find exceedingly valuable to have in his library, as a volume for reference. The subject desired is easily found, and there is no doubt left on the mind as to the treatment to be pursued, for Dr. Tanner is, to use his own term, somewhat dogmatic under this head; but he thinks that twenty years of daily observation have given him the right to utter no uncertain sound. We need hardly say anything with regard to the "*get up*" of the volume—which has been produced in an exceedingly creditable manner by Messrs. Lindsay & Blackiston.

On the Wasting Diseases of Infants and Children. By EUSTACE SMITH, M.D., London, Physician to the Northwest Free Dispensary for Sick Children. Philadelphia: Henry C. Lea, 1870. Montreal: Dawson Brothers.

Ordinary systematic works upon the disorders of childhood but imperfectly sketch the clinical condition of chronic wasting, and the brief details to be found under the heads of "Marasmus," "Tabes," "Atrophy," &c., &c., give but a meagre outline of the prominent symptoms of these disorders. In the study of this class of affections peculiar to childhood, Dr. Smith, early in his career, found ample scope, and that he has dili-

gently pursued his researches the little volume now before us amply testifies. It consists of an introduction and nine chapters, the whole embracing very nearly two hundred pages. The introduction contains many general practical suggestions—such, for instance, as information to be derived from the face of the infant, breathing, cry, importance of diet, external applications, baths, &c., and much more equally important to become acquainted with as general principles. Chapter 1, deals with atrophy from insufficient nourishment. The various causes which give rise to wasting, under this head are noticed, and numerous methods of appropriate treatment are detailed. Chapter 2 treats of chronic diarrhœa, a complaint which, so far as experience goes, is fortunately comparatively rare in this city. Chapter 5, upon congenital syphilitis, is very well written, though not by any means exhaustive of its subject. The last three chapters are upon tuberculosis, acute and chronic, and we notice that Dr. Smith has endeavored to utilize recent views on the nature of the phthisical process. This is the only portion of his book which is at all speculative in its character, the rest being, so far as we can judge, thoroughly practical. We feel sure that no one can rise from its perusal without having gained information, and that too of a useful character.

PERISCOPIC DEPARTMENT.

Medicine.

THE USE OF HYDRATE OF CHLORAL AS A REMEDY IN EPILEPSY.

Dr. Weidener, of Jena, relates an interesting case of a lad, 19 years old, a gardener by occupation, who, since his sixteenth year, had been the subject of epileptic attacks. The fits, according to the patient's account, occurred at irregular intervals. Occasionally they would recur two days consecutively, in other cases not until after the lapse of several weeks. The countenance of the patient exhibited an expression of terror or affright. There was from time to time a rapid alternation in the temperature of the surface. Each epileptic paroxysm was ushered in by an *aura* of short duration, resembling a rush of cool air along the entire extent of the spine. Shortly after, the patient, with a loud shriek, was seized with epileptiform convulsions, which held him apparently breathless for some five to ten minutes. With almost every paroxysm the tongue was bitten;

after the convulsions had subsided, there was observable a number of punctated ecchymoses over the eyebrows. During the intervals there would often be experienced, suddenly, convulsive movements of the muscles of the upper extremities and, also, often of the lower extremities Physical excitement would often give rise to repeated convulsive distortions of the lips.

The father of the patient, it was ascertained, had suffered from epilepsy up to his twenty-seventh year; a brother, twenty-five years old, had been epileptic since his eighteenth year; and another brother, thirteen years old, since his ninth year.

A careful examination of the patient proved that nothing abnormal was to be detected in either of the organs of the chest, abdomen, or pelvis. The skull was symmetrical in shape, and of a smooth, even surface. Neither cicatrix, tumour, nor other mark of injury could be detected on any part of the body.

The fits, instead of remaining irregular in their occurrence, as at first, became, subsequently, somewhat periodical, recurring, every seventh day, always at the same hour—between three and four o'clock a.m. The patient then awoke with a sense of difficulty of respiration, great anxiety, with confusion of mind; after uttering a loud scream or two, within the course of five or ten minutes, he was seized with a violent paroxysm of epileptic convulsions.

On Friday, November 12th, about one o'clock a.m., some two hours preceeding the anticipated paroxysm, a dose (45 grm.) of the hydrate of chloral was taken by the patient. About fifteen minutes after taking it he fell asleep. Between three and four o'clock the respiration of the patient was regular—about fifteen respirations to the minute. He awoke at seven o'clock a.m., without headache, or any other of the ordinary symptoms of the epileptic attack. On each of the two succeeding Fridays (Nov. 19–26), and at the same hour, he took the same quantity of the chloral, and with the same result. No paroxysm had now occurred for a space of three weeks. From the 15th of November the patient had been placed under the use of bromide of potassium in large doses.

Dr. Weidener remarks, January, 1870, that on a close examination of the patient he could discover no remaining symptom of an epileptic character, he, therefore, believes himself justified in presenting the case as a fair example of the beneficial results that may be anticipated from the administration of hydrate of chloral a short time preceding the expected occurrence of the epileptic paroxysm.—*Deutsches Archiv. f. Klinische Medical*, Feb. 1870. D. F. C.

CASES OF HEAT APOPLEXY.

Case *communicated by Surgeon G. H. Daly, Officiating Garrison Surgeon.*—Private F., 26th Foot, admitted into the receiving room garrison dispensary, 10-30 a. m., on 15th June with heat apoplexy, the symptoms of which were first observed by his comrade.

At 11 a. m., when seen by me, the following symptoms were present: very stertorous and heavy breathing, without puffing, unconsciousness, intense heat and dryness of head and body generally, bounding pulse, convulsive movements of limbs, dilated pupil.

Twenty grains of quinine were given in solution at once, ice was applied to the head, and iced water splashed over his chest and face at intervals of a few seconds; to have ten grains of quinine every hour. At noon his bowels had acted freely from an enema given on admission; he was now conscious to the application of cold water to his chest and face, starting up at every plash, but he was delirious, and unable to articulate.

At 1 p. m., breathing heavily but less laboriously, skin burning hot and dry, pulse full and strong, 120, semi-conscious, answers when loudly spoken to; ordered the body to be sponged with diluted acetic acid.

At 4 p. m., had taken 40 grains of quinine, is now conscious and answers coherently, complains of frontal headache, skin hot but moist, pulse quick but less full.

At 5-30 p. m. he was so much improved that he was sent to the general hospital.

Assistant Surgeon Carpenter, 26th Foot, was good enough to communicate his state to me on the following morning:—"Slept half the night through; skin, pupils, &c. natural; tongue furred; pulse 94, compressible; complains only of dizziness when he sits up." No relapse occurred, and strength gradually returned.

ABSTRACT OF TWO CASES OF HEAT APOPLEXY TREATED WITH QUININE, *by Assistant Surgeon E. O'Sullivan, 96th Regiment.*—Since the early part of May last up to the present date, four cases of heat apoplexy occurred amongst the men of H. M's 96th Regiment, stationed at Dum-Dum.

The two first cases were treated in the usual way: cold applications to head, leeches, &c.; both the cases were fatal.

CASES TREATED WITH QUININE.—No. 1, S. R. Private, 96th Regiment, brought to hospital at 6 p. m., 10th June, from the Main Guard, where he had been confined for a couple of hours; had been made a prisoner of in the bazaar, where he was found drinking; he was in a semi-

comatose state, and spoke with difficulty when aroused, complaining of pain in his head.

At 7 p. m.—Perfectly comatose, pupils dilated; skin hot; pulse full 130; can swallow with difficulty; 10 grains of quinine given at once, to be repeated every second hour. A solution of five grains of quinine was made, and at 7-30 p. m. one-half of this solution was injected into the right arm at insertion of the deltoid muscle, the other half was injected into the left arm, to be repeated every hour.

In this manner he had fifteen grains of quinine, and twenty grains by the mouth, and at 10-30 p. m. the patient was conscious.

11 p. m.—Can speak; had some lime juice and water.

12 p. m.—Dropt into a sound sleep.

11th June.—Feels slight headache, otherwise pretty well.

22nd June.—Quite well.

No. 2, D. S. Private, 96th Regiment, was on sentry at the hospital. About 5 p. m., 13th June, he suddenly left his post, and rushed in the direction of the hospital guard room, where he was arrested, and brought into hospital.

6-30 p. m.—Quite insensible; nearly outrageous, requiring three or four men to keep him in bed; pupils very much dilated; extreme sensitiveness of the body; eye-lids open; muscular spasms frequent, and very powerful, with grinding of the teeth; pulse small, 140; skin cool and dry; unable to swallow. A solution of quinine, same strength as in the case No. 1, was immediately injected, $2\frac{1}{2}$ grains into each arm; this was repeated in half an hour.

7-15 p. m.—Spasms completely disappeared, lying quietly; cannot swallow. The injections of quinine to be repeated every hour.

10-30 p. m.—Patient slightly sensible, but upon being roused, falls into a heavy stupor.

11 p. m.—Complains of great pain in his head, and extreme thirst; had some lime juice and water.

In this case, there were twenty-five grains of quinine injected.

14th June.—Much better; pain in head still continues; ordered leeches, calomel, and antimonial powder.

15th.—Has hœmaturia, urine being ammoniacal.

22nd.—Doing very well; can walk about the ward.

Both of these cases, previous to my arrival at the hospital, had cold applications to heads, cathartic enemas, and leeches adminstered, but I am of opinion that the cure is due to the quinine.

CASE *communicated by Dr. Waller.*—J. S. Steward, admitted 16th June, 3-30 p. m., had been working in the sun with a thin straw-hat on,

on leaving the deck to go below felt senseless to the bottom of the ladder. On admission, was comatose, struggling, clenching his fists, and biting his lips, respiration embarrassed, pupils contracted, skin burning hot.

Cold douche was applied, and ten grains quinine given by the mouth, and repeated hourly for three doses.

On the following morning he was sensible, cool, with a good pulse, but hesitated in his speech, which was not a natural condition. He complained of headache. A large mustard poultice was applied to the nape of the neck, and quinine given in five grain doses. On the 18th he was free from pain and stammering, and was discharged on the 19th.—*Indian Medical Gazette.*

THE STETHOSCOPE AS A MEANS OF ASCERTAINING THE SEX OF THE CHILD.

Dr. JAMES CUMMING communicated to the Obstetrical Society of Edinburgh some interesting investigations on this subject.

TABLE I., MALES.

The first case was one of twins, the heart of the one fœtus was heard in the right groin beating 110 in the minute, and on delivery it proved to be a male; the second heart was heard in the left hypochondrium beating 154, and on delivery it was found to be a female.

2.	Fœtal	pulsation,	138	per minute.	15.	Fœtal	pulsation,	116	per minute.
3.	"	"	138	"	16.	"	"	120	"
4.	"	"	135	"	17.	"	"	120	"
5.	"	"	130	"	18.	"	"	138	"
6.	"	"	130	"	19.	"	"	125	"
7.	"	"	132	"	20.	"	"	140	"
8.	"	"	132	"	21.	"	"	140	"
9.	"	"	140	"	22.	"	"	137	"
10.	"	"	132	"	23.	"	"	140	"
11.	"	"	140	"	24.	"	"	141	"
12.	"	"	136	"	25.	"	"	122	"
13.	"	"	133	"	26.	"	"	120	"
14.	"	"	133	"					

TABLE II., FEMALES.

1.	Fœtal	pulsation,	150	per minute.	9.	Fœtal	pulsation,	140	per minute.
2.	"	"	142	"	10.	"	"	152	"
3.	"	"	140	"	11.	"	"	140	"
4.	"	"	150	"	12.	"	"	143	"
5.	"	"	144	"	13.	"	"	144	"
6.	"	"	140	"	14.	"	"	141	"
7.	"	"	140	"	15.	"	"	160	"
8.	"	"	144	"					

From these two tables it seems that when the pulsation varies from 120 to 140, the probability is that the fœtus will be a male, and when the pulsation varies from 140 to 160, the fœtus will likely be found to be a female. But there are some exceptions to these facts. In three cases in which the pulsation was from 150 to 160, the fœtus proved to be a male; and in fifteen cases in which the pulsation varied from 116 to 138, the fœtuses were found to be females. It appears, therefore, that there is less frequent variation in the pulsation in the male fœtus than in the female; or rather that there are fewer cases in which the heart's action exceeds 140 in the male, than that it falls below that number in the female.

These tables are exceedingly interesting, however, as far as they go; and the subject is well worthy further attention.—*Edinburgh Medical Journal*, June, 1870.

DIABETES A NERVOUS DISEASE.

Dr. Dickinson, in his recent paper before the Royal Medical and Chirurgical Society, after showing the *post mortem* appearance of the brain and spinal cord in four cases of diabetes, says it would seem that diabetes is associated with an organic change, which may be briefly described as a destruction of the nervous matter along the arteries of the brain and cord. He thinks we may give up the view that these changes are consequent upon the diabetic state of the blood, and grant that the nervous alterations *produce* the glycosuria. The alterations in the brain are, in nature and seat, those which physiology has shown are capable of producing diabetes. The urine often becomes saccharine in consequence of injuries of the head, apoplectic seizures, intra-cranial tumours, and cerebral irritation. Diabetes, though sometimes hereditary, continually results from circumstances exerting a depressing or otherwise injurious action on the nervous functions, among these may be mentioned, mental disturbance, rage, grief, anxiety, and toil, dissipation, and especially sexual excesses.—*Exchange.*

Midwifery.

THE IRRITABLE HEAD OF PREGNANCY.

By J. Waring-Curran, L.K. & Q.C.P.I., L.R.C.S.I., &c.

The irritable head of pregnancy is a very tedious occurrence when it arises, and a very troublesome sympton to overcome when it presents itself. Little, if any, notice has been paid to the subject, although this

undesirable complication may safely be said to range in severity next to the vomiting of pregnancy, but to occur with greater frequency. The constant character of this distressing symptom is wearing to the patients, although the pain in the head is never what may be called violent, but it produces an amount of restlessness and a degree of uneasiness, accompanied by want of proper sleep, which is detrimental to health.

I have known the irritable head commence between the second and third months of pregnancy, and continue to the termination of utero-gestation. In character it is remittent; some patients awake with it in the morning, and it never abates till bed-time arrives; others rise free from headache, but it commences in the course of the morning, and continues throughout the day. The irritable head of pregnancy is seldon, if ever, accompanied by vomitting. I have never noticed any gastric disturbance attending it. The patient complains of weight across the forehead, and the whole head feeling hot, although the face is pallid, and no increase of temperature can be detected by the hand; sometimes, but not always, there are noises in the ears, and objects, compared by many to stars, floating before the axis of vision. This, of course, is the aqueous humour passing up the anterior chamber of the eye. The countenance is invariably indicative of anxiety, or of a subdued form of constant suffering. There is never any fever; the skin is moist, and the woman easily perspires; but the bowels are irritable, generally relaxed, occasionally confined. The tongue is loaded with a white creamy fur at the base and in its centre, the tip and edges being exempt from coating. The pulse is quick, never beyond 90 in the minute, but it does not communicate much power. Between the finger and the artery a kind of tumour of the soft parts, often experienced in typhoid fever, is to be felt. There are never any muscular twitchings, no pain or uneasiness about the abdomen, the entire complaint being confined to the head.

In those who are unable to rest at night, or whose sleep is irregular and broken, who slumber occasionally during the day, at the sacrifice of a disturbed night, the irritability about the head is much increased, and the pain is aggravated accordingly.

No doubt the irritation produced by the gravid uterus is the cause of the mischief, and the only effectual cure is the birth of the child; yet much may be done to remedy, or, at least alleviate, a distressing and strangely persistent symptom.

I have tried many remedies, but they have proved ineffectual. I have applied counter-irritants to the nape of the neck, and evaporating lotions to the forehead, but they have been abortive. The only medicine from which I have obtained good results is the bromide of potassium, and I

prescribe it in ten-grain doses with spirits of ammonia, tincture of hyoscyamus, and camphor julep; and when the patient has procured sleep, and the white creamy fur is cleaning off the tongue, I order two-grain doses of oxide of zinc thrice daily, with a camphor and conium pill at bed-time. This method of treatment gives much relief.

I communicated a paper some time ago on the value of oxalate of cerium in controlling the vomiting of pregnancy. The effect of that drug, and it is a successful remedy, is not more appreciable, nor more satisfactory in its results, than the bromide of potassium in the treatment of the irritable head of pregnancy, when followed up with the oxide of zinc.—*Medical Press and Circular.*

Medical Jurisprudence.

POISONING BY TINCTURE OF ACONITE.

ABSENCE OF THE PULSE FOR THIRTY-FIVE TO FORTY MINUTES—HYPODERMIC INJECTIONS OF LIQUOR AMMONIAE—RECOVERY.

By B. Wills Richardson, F.R.C.S.I.,

Examiner in the Royal College of Surgeon, Ireland, and Surgeons to the Adelaide Hospital, Dublin.

In the first volume of this journal for the year 1869 will be found the account of some valuable experiments by Professor Halford, in which he injected the strongest liquor ammoniæ, diluted with two parts of distilled water, into the superficial veins of dogs that had been bitten by venomous snakes. The results of the experiments, as regards the saving of life, seemed so conclusive, that Professor Halford was led to propose venous injections of diluted liquor ammoniæ for snake poisoning in the human subject, and, at the same time, to suggest that ammonia injections might "perhaps be extended to opium poisoning, or to that resulting from infection, as in fever, cholera, etc."

Several cases of poisoning from the bites of venomous snakes, in the human subject, were treated in this manner, subsequent to the publication of Professor Halford's suggestion; and, as far as I have been able to ascertain, with such seeming success, that the injections and recoveries have all the appearance of bearing the relation to each other of cause and effect.

Professor Halford recommends that the strong liquor ammoniæ be diluted with two or three times its quantity of water before it is injected, and that from twenty or thirty drops be thrown into one of the larger veins. In the case here recorded, I did not deem it judicious to dilute

the ammonia procured for me, having found that it was not a very strong preparation. He disapproves of throwing the injection merely under the skin, and believes that after the injection has been made, there is no necessity for resorting to the use of stimulants (*Ibid.* pp. 122 and 124).

Taking the hint from his suggestion to inject liquor ammoniæ into the veins in opium poisoning, etc., I injected this fluid with the most satisfactory results in the following case, the ammonia having been, however, injected subcutaneously, and not into the vein as recommended by him:—

On Thursday evening, November 12, 1869, I received an urgent message to visit Miss B., aged 25 years, who, while suffering from severe facial neuralgia, swallowed through mistake, instead of a tonic mixture, two tablespoonfuls of an aconite mouth lotion.

The mixture and the lotion being upon the dressing-table, Miss B., in the hurry to get out for some shopping, swallowed, just after breakfast, two tablespoonfuls of the lotion, instead of an equivalent dose of the mixture, her mouth being at the time benumbed by a previous use of the lotion as such.

The mistake was made at 11 o'clock a.m. A cup of tea was next taken by her, and she left home in a few minutes. Several shops were visited on her way to the house where she intended to make most of her purchases, so that the latter was not reached until half-past twelve o'clock p.m. She had barely entered it when she became "alarmingly ill, staggered on attempting to walk, and was seized with a fearful benumbed tingling in the lower half of the back, then in the face and head, while at the same time the tingling in the mouth became more developed. The head felt as if it were distorted by the pressure of a vice, and a sensation of tightness across the nose and eyes was most distressing. In a few minutes more, the legs became so weak, and such tremor came over her, that she could not stand without assistance. She was conveyed immediately to the house of an acquaintance in the neighbourhood, her friends being under the impression that she was too prostrate for the drive home, a much longer distance. She was placed upon a sofa. The debility had become so great that she fainted on three or four occasions in attempting to sit up. Benumbed tingling of both the upper and lower extremities commenced at half-past one o'clock p.m., and vision became very imperfect, a blackness, as she described it, having come over the sight. A little time afterwards, vomiting of an olive-yellow-coloured fluid commenced, and was almost incessant up to seven o'clock p.m. Towards evening she was greatly collapsed, and having fainted when in this state, her friends fancied that she had expired."

Before I saw her brandy had been given repeatedly, as well as

acidulated drinks; but they were vomited as soon as they reached the stomach. Warm jars, also, were applied to the feet, and additional warm clothing was placed over her. There was no indication of mental aberration, and the bowels were undisturbed. I arrived at fifteen minutes to seven o'clock p.m., and found her in a most perilous state. The face was pallid, the pupils were largely dilated, and the extremities of icy coldness. Vomiting was almost constant, and loud eructations were frequent. She had, as she expressed herself, "a dreadful benumbed tingling in the legs, arms, head, face, and in the mouth, the head feeling as if it were compressed by a vice." The pulse was felt with difficulty at the wrists, and the heart's action was weak and irregular. I gave her immediately some warm brandy punch, and, in a few minutes afterwards, a mixture composed of aromatic spirit of ammonia, sulphuric ether, tincture of ginger, and camphor mixture. A sinapism was placed over the heart, and one upon the calf of each leg. The punch and the mixture were not retained upon the stomach.

She was pulseless at ten minutes to seven o'clock, and the extremities were cold as death. The pupils were much dilated, The intellect continued unimpaired.

It being obvious to my mind that death at the heart had commenced, I resolved to inject hypodermically twenty-five drops of liq. ammoniæ; but as the time that would be required to procure my own syringe might be a fatal loss to the patient, I sent to a neighbouring cutler, who was kind enough to send me one in a few minutes.

Seven o'clock p. m.: I injected half a drachm liq. ammoniæ under the skin, corresponding to the insertion of the right deltoid muscle.

Ten minutes past seven o'clock: Vomiting not so frequent; but the stomach will not tolerate the stimulants. She continues collapsed and very cold; forehead covered with sweat, eyes glassy, and pupils much dilated; tongue pale and contracted; no trace of pulse at the wrists; intellect unimpaired. Injected half a drachm of liq. ammoniæ under the skin of the outside of the right arm, about midway between the elbow and seat of the first injection.

Twenty minutes past seven o'clock; Vomiting at longer intervals; still pulseless at the wrists, and no sign of return of warmth in the extremities; complains constantly of the compresed and distorted feeling of the head; pupils have continued of the same size. Injected half a drachm of liq. ammoniæ under the skin of left infra-scapular region.

Twenty-five minutes past seven o'clock: Pulseless. Injected half a drachm of liq. ammoniæ under the skin a little below the middle of the outer part of the left arm.

Half-past seven o'clock: While my fingers were applied over the course of the radial artery, at the wrist, searching for a pulsation, I fancied I felt a weak, irregular, thready beating of the vessel. In a few minutes, this became no longer doubtful, but gradually stronger and stronger.

Eight o'clock: Pulse fully established, but a little irregular; vomiting had almost ceased; extremities warming; tingling of the skin and compressed sensation of the head and face no longer felt. The tingling, however, of the extremities, although not so decided, did not cease until half-past twelve o'clock next morning; and that of the lower lip continued until November 28.

In cases in which death is to all appearance impending, I should not like to lose time in trying to limit the injection to the vein, as suggested by Professor Halford, and would rather take the chance of a sufficient quantity of the ammonia being absorbed from the areolar tissue before its local action takes place, the chief objection to this procedure. Of the four injections made under the skin in Miss B.'s case, but one caused subsequent annoyance, the cutaneous eschar that resulted from it being about the size of one of our new halfpennies. There being no doubt that the symptoms were caused by tincture of aconite, the important matter to ascertain was the quantity that had been taken. I therefore made the necessary inquiries on the point, and learned that the lotion, if made according to the directions for compounding it, should have contained one drachm and a half of the tincture in every fluid ounce. Of this lotion Miss B. took two tablespoonfuls, as already mentioned.

Whether or not the late appearance of the symptoms was owing to the tincture being a weak preparation, or to the fact that it had been taken immediately after breakfast, or even to some peculiar idiosyncrasy, are matters for conjecture. At all events, when they were established, they were of the most alarming nature, and portended approaching death.

Although I am fully sensible of the wonderful assistance Nature renders to our art, nevertheless I believe that if she had not been herself assisted in this case, she would have failed in maintaining life sufficiently long to allow the influence of the aconite to pass away.

When we consider that none of of the stimulants given by the mouth were retained upon the stomach—that Miss B. was almost pulseless at a quarter to seven o'clock, and pulseless at ten minutes to seven o'clock, and continued to be so until about half-past seven o'clock—and that during these forty-five minutes she became weaker and weaker, colder and colder—the saving of her life may, I think, be fairly attributed to the ammonia subcutaneous injections, and for the following reasons:—

1. The vomiting, which had been almost incessant up to the moment of

the first injection, commenced to lessen in frequency immediately after it, and nearly ceased after the fourth; 2. The disappearance of the pulse from the wrists at ten minutes to seven o'clock, and its reappearance after the fourth injection; 3. And because none of the stimulants that had been given by the mouth were retained upon the stomach, any influence they may have exerted when descending to this viscus, and for the few moments they were in it, not being sufficient to prevent the progressive failure of the circulation.

In addition to the varieties of poisoning for which professor Halford has recommended liq. ammoniæ injections, it appears to me well worthy of trial in poisoning by chloroform and in hydrophobia. Possibly, if life could be prolonged beyond the time that death usually occurs in cases of hydrophobia the latter might be averted. Whatever doubt may exist as to the necessity of venous injections in a case like the one I have just narrated, there can be little as to the advisability of injecting the veins in hydrophobia; for, as the injections would probably have to be frequently repeated, such a multiplication of the cutaneous eschars it would be better to avoid.—*Medical Times and Gazette.*

Materia Medica and Chemistry.

ERGOT OF RYE AS A THERAPEUTIC AGENT.

By Dr. J. Waring-Curran, Dublin.

Although the chief uses of ergot of rye are, for the most part, confined to those affections of the uterus over which it seems to exercise a specific action, I have been induced to give extensive trial of the drug in other complaints; and as I have found most satisfactory results from its administration, the following paper has been written in the hope that ergot of rye may be more frequently exhibited as a medicine, and that the practitioner may be reminded that in it he has a most potent therapeutic agent of reliable efficacy in other diseases, apart from those affecting the uterus.

In Parturition.—The physiological action of ergot of rye upon the parturient uterus in exciting contractions of the unstriped muscular fibre is familiar to all, and the *constant* pains which it induces so characteristically differing from genuine labour pains. This action is entirely produced through the ganglionic nervous system by affecting the muscular coats of the blood-vessels, and thus diminishing their calibre. We are told by Dr. Brown-Séquard, as the result of a series of experiments made by himself, that the blood-vessels of the pia-mater of a dog under its

influence became smaller, and that the reflex action of the spinal cord was diminished to a great extent.

In three-fourths of the labours attended by myself, I have exhibited ergot with most salutary results. I have never observed any ill effects from it, when judiciously given, to either mother or child. I never attempt it unless the os is dilated and dilatable; and primapara cases, if the pelvic development be natural, and the os be not rigid, never prevent my giving it. The cases we read of, (and lectures have told us about its destructive effects upon the mother, and its poisonous properties to the child,) experience teaches me must have been cases where ergot was improperly given.

I have used extensively the liquid extract prepared by the action of ether and spirit upon powdered ergot, and the tincture too; but on neither have I the least reliance. Some time ago I was sent to assist a medical gentleman; upon my arrival I found the child's head in the vagina, and complete inertia; the gentleman in attendance told me he had given the liquid extract in large and repeated doses without any appreciable therapeutic action. I immediately prepared a fresh infusion—the preparation I invariably employ, and added to it some borax; in twenty minutes its action commenced, and within an hour the child was born. I do not say that in such a case the short forceps would not have done equally well; but people, as a rule, have, in private practice, so great a hatred to instrumental deliveries, and are so apt to attribute every little trivial subsequent complaint to their use, that I have not used the forceps as frequently as formerly.

When studying midwifery, some years ago, at the Rotunda Lying-in Hospital, Dublin, I painfully noticed—and the observation has made no little impression upon me—that the students and embryonic midwives were compelled to allow poor women to continue in labour, hour after hour until nearly exhausted, because the rules of the institution forbade their interference, unless an over-fed and morose female superintendent was awaked and consulted. The educated student, revolting at such consultations, allowed the case to linger in preference. As I now reflect, I have not a particle of hesitation in saying that many of those confinements might have been safely and expeditiously concluded hours previously, had the best informed and senior student been permitted to prescribe a dose of ergot. To keep a woman in labour five minutes longer than she might be is unnecessary and a great cruelty. The freshly prepared infusion, with borax, will demonstrate its action in twenty to twenty-five minutes, or earlier if the anterior os be gently irritated with the forefinger. So far as ergot is related to the accoucheur I should feel disappointed

arriving at the bedside of a parturient woman without it. I write not inconsiderately in making this remark, for I thoroughly deprecate the exhibition of any drug given indiscriminately and recklessly, and can thoroughly comprehend the issue of a case of distorted pelvis, or rigid os (when antimonial wine is requisite) where any could be found foolish and inexperienced enough to prescribe ergot.

Flooding after Labour I have never failed arresting by a full dose of infusion of ergot, at the same time lowering the patient's head, elevating the pelvis, and firmly applying the padded binder. I have observed in the practice of others that plugging the vagina had in several instances to be superseded by a full dose of ergot of rye, and that with the desired effect.

Menorrhagia is a term now so inaptly applied to the varied forms of uterine hemorrhage, requiring different treatment, that I purpose devoting a paper to this subject alone, and to the effect which heat along the dorso-lumbar region produces by inducing hyperæmia of the vasomotor nerve centres related to the uterus, and through the increased currents along the nerves, causing contraction of the uterine vessels, and thus arresting menorrhagia; but here I must confine myself to those varieties of uterine hemorrhage best cured by the ergot of rye. What I am pleased to call the *strumous abortive predisposition*, met with in patients of a scrofulous habit, who have become very frequently impregnated, who suffer from constitutional debility, from leucorrhœa when the menorrhagia has exhausted itself, or when arrested by treatment, demands the exhibition of ergot when the hemorrhage is present, which it rarely fails to command. Menorrhagia from obstructive cardiac disease at either the mitral or aortic orifices, congesting the pelvic viscera, that associated with a diseased portal system, that consequent upon a scorbutic state of the system, and genuine menorrhagia—*i. e.*, an increase of the catamenia continuing for an unnatural lengthened period and returning before the time calculated upon, without organic lesion, are the forms or varieties of menorrhagia to be benefited, to be checked and cured by the freshly prepared infusion of ergot and borax. Menorrhagias dependent upon ulceration of the os uteri, due to the existence of polypoid growths, or owing to the presence of malignant excrescences, or the effect of retroflexion of the uterus, do not come among the category of cases to be affected beneficially and permanently by ergot of rye, although I have used the drug for the purpose of pressing down the growth of a polypus to be snared, a malignant or an ulcerated surface to be cauterised.

Amenorrhœa occurring in the plethoric is best treated for a few days with strong salines, aloetic purgatives, or medicines which act upon and

increase the circulation of the large intestines, and then closely followed by two-ounce doses twice a day of the infusion of ergot, prepared according to the British Pharmacopœia. Amenorrhœa in those who have only *changed* a few times, and in those of tender years, and amenorrhœa of chlorotic women, should have citrate of iron, spirits of ammonia, and tincture of nux vomica administered for three weeks in full doses, and the fourth week the patient shall be ordered hipbaths, and from one ounce to an ounceand a half doses of the infusion of ergot thrice daily.

In these cases, as in the parturient, vomiting is sometimes induced, being the direct effect of the drug upon the muscular coat of the stomach. Accordingly, to prevent this, I direct the albumen of an egg or some gruel to be partaken of before the medicine, and this invariably with good results.

Hæmoptysis I have frequently arrested for a time with ergot, with good effect in the commencement of phthisis; but I should not be disposed to prescribe it, lest vomiting should be set up in the hæmoptysis which sometimes accompanies the advanced stages of pulmonary consumption.

Hæmaturia.—I have found great benefits from the tonic effects of ergot upon the blood-vessels, in causing a diminution of their calibre, and arresting hemorrhage from the kidney. I can safely say that its effects are superior to either turpentine or the vegetable acids in this complaint, and the same observation applies to the tonic effect it produces on the muscular fibre of the bladder in those cases of general atony which come under our notice, and for which so little permanent good can be done.

Constipation of the Paralytic is strikingly remedied, when the most powerful cathartics fail, by occasional doses of ergot, which sensibly diminish the amount of blood present in the spinal cord and its membranes, give tone to the muscular fibre of the bowels, and thus propel the fœcal matter to the rectum.

Fatty Degeneration of the Heart.—I have had, and still have, two patients suffering from this complaint, who are very materially assisted by occasional doses of ergot. I can only compare its tonic virtues to that of carbonate of ammonia, but as experience is limited, I cannot write emphatically.

As an Injection in Gleet I believe I have been the first to use the infusion of ergot and I have not yet failed. I employ the Pharmacopœia infusion, and direct its being injected three and four times in the day. I observe the tonic power it imparts to the urethra.

When the injection is thrown along the urethra, I direct the meatus urinarius to be firmly pressed against the nozzle of the syringe, so that the ergot may lie for five minutes in the urethra; for experiment has

taught microscopically that the first effect of ergot locally applied to a raw surface, is 1st, to increase the circulation; 2ndly, to suspend the circulation; 3rdly the circulation recovers itself, is still disturbed, and irregular, or spasmodic, showing that the contraction and relaxation of the muscular coats of the arteries are subservient to the will of the ergot, hence, undue contraction producing gangrene. These series of phenomena upon the blood-vessels of the urethra, at all events, set up healthy action and cure a foul disease.

I hope this paper may have the effect of bringing more prominently forward one of our most valuable drugs, that in the diseases I mention the practitioner in extensive practice may be induced to test its value and give us the result of his experience, for it is only by combining results that accuracy is established. To the point: an accomplished surgeon, at my suggestion, has employed infusion of ergot as an injection in a case of chronic catarrh of the bladder. The reports of the case are valuable, but they are not corroborated by other cases, hence my delicacy in alluding to what another will publish; for in other similar cases its tonic virtues may not prove as effectual.—*Medical Press and Circular, Nov.* 17, 1869, *p.* 397.

NITRITE OF AMYLE IN TETANUS.

By M. Foster, Esq., Huntingdon.

The treatment of traumatic tetanus is so empirical, and the favourable results of any medicine are so problematical, that it appears legitimate practice to use any *likely* remedy. In a practice of thirty-four years I have seen seven cases, all of which proved fatal, until this time I prescribed nitrite of amyle inhalation. I was induced to try it from its supposed property of alleviating the spasms of angina pectoris, and for which I had previously secured a supply.

J. B., aged fifty-two, publican, smashed the third finger of his right hand on Dec. 11th, 1869. He was exposed to much wet and cold on the 20th; felt himself very ill on the 22nd, complaining of stiffness of the jaws. My partner, Mr. Lucas, saw him on the 23rd, when tetanus was setting in fast. I saw him on Christmas-day. At this time his jaws were fixed, and on the recurrence, very frequently, of tetanic spasms, his body was rolled up into a rigid ball. I gave him five drops of the nitrite on a handkerchief. The inhaling of it had an immediate effect in lessening the spasms. Directions were left to administer the same on each return of the spasms. This was assiduously done by his wife. From that time onwards the spasms were *held in check* until the ninth day, when he had inhaled an ounce, and the case might be said to be reduced to a semi-chronic state, with a fair prospect of recovery. He was most *thoroughly* supplied with nutrients, a few stimulants, tonics, and aperients. He gradually improved until the end of the month, when he was convalescent.

His perfect recovery to health has been retarded by some attacks of catarrh and congestion of the lungs; otherwise he is well.

I know it is foolish and rash to pronounce any treatment satisfactory upon a single case, such as this; and it is for the profession to try its influence, for good or otherwise, in other cases as they may arise.—*Lancet, April,* 9, 1870, *p.* 533.

Canada Medical Journal.

MONTREAL, AUGUST, 1870.

THE WATER SUPPLY OF MONTREAL.

After considerable outlay the citizens of Montreal regard it as a matter of satisfaction that they have at last obtained a constant supply of good water. The quantity certainly is unlimited and the pressure sufficient to secure, in case of fire, a powerful stream; in this respect, at least, our city will bear favourable comparison with any city on this continent. Furthermore, the supply is quite adequate to an enormous expenditure in fountains and drinking troughs, where the water is constantly flowing night and day. This has been considered a great boon and is a means of affording an abundant supply to man and beast of what has hitherto been looked upon as pure and healthy water. The water to all appearance is pure and the arrangements such as to be generally approved. We say the water to all appearance is pure and good, but, unfortunately, it does not bear inspection. To arrive at definite and startling results, the water examined, should be that first drawn from the pipes in the morning after a few hours quiescence, this should be allowed to settle, and the sediment if placed under the slide of a microscope will be found to consist of both animal and vegetable refuse, diatomaceæ, fish spawn, manure, pieces of straw, hay seed, and an occasional cistoid worm teeming with a brood of young, more numerous than the united armies of France and Prussia.

There is no exaggeration in all this, it is a matter of great public importance, and we have with other independant observers satisfied ourselves, after frequent trials of the correctness of the above statement. There can be no question of the truth of this statement, and each particle of the water, at all periods of the day, contains a greater or less quantity of these impurities.

It is said we all have to eat one peck of dirt some time during our lives, but we do object to have it introduced into each morsel of food we eat, and each mouthful of fluid we drink; at the present rate the citizens of Montreal are indulging in nigher a bushel every year, which is anything but a pleasant reflection. There are many things connected with the Montreal water works which require careful investigation, and

we think that to arrive at anything like definite results as to what is best to be done, a scientific commission should be appointed, and suggestions received and acted upon.

The water supply of Montreal is drawn chiefly from the Ottawa river. This river with its numerous tributary streams is teeming with fish and their parasites; some of the streams which empty into the Ottawa are alive with small hair worms, one of the family of the Filiaria. Several of these we have captured and they have for some time past formed the subject of our almost daily observation; now and then a veritable Filiaris will be passed through our water taps. The worm is supposed to live on the water beetle, which is likewise abundant in these streams. Besides this we have captured on more than one occasion minute crustaceans, which are microscopic objects, and other forms of animal parasite; we have found on several occasions the young of the Filiaria in active motion and which, from its size and appearance, is not to be distinguished from the young of the guinea worm, which belongs to the same family. We have heard that the reservoir is full of fish, this is a matter of some moment, as if so it is another reason for seeking to improve its condition. We have no doubt that the rocky sides of the reservoir are covered with algæ, especially those which abound in stagnant water where there is a rocky bed. We would again urge on our Corporation to see to the condition of our water supply as there can be no doubt of the fact that in its present state it is unwholesome, and we believe is a fruitful source of bowel derangements, which are well known to be common in our city. To our citizens, those who can afford it, we would advise the purchase of a filter, or to extemporise one, with charcoal and sand which are always to be had , or, if it is preferred boil the water by which means we cook the impurities and render them less nocuous; but the proper thing to do is for our city to institute on a large scale filtering beds to pass the water through, prior to admitting it into the reservoir.

We trust that if the corporation of our city adopt the above suggestion and seek for advice from scientific men, that no personal or other considerations will induce them to appoint any, but persons whose opinions will carry weight with the community. If anything is to be done it should be attended to without delay before the cold of winter has set in, as it is in every way desirable that the citizens of Montreal should be supplied, especially during the prevalence of the heat of summer, with drinkable water. We may state that it is not at all unlikely that that direful scourge, cholera, may again visit our country during the next year, and we should fortify ourselves against the enemy by every conceivable sanitary precaution.

CANADA
MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Case of Fracture of the Anterior Superior Spinous Process of the Ilium by Muscular contraction. Reported by S. Jox, M.D., and J. Wallace McWhinnie, M.D.*

In looking up the literature of fractures of the anterior superior spinous process of the ilium we read of their occurrence from direct violence, but not one case is recorded as having taken place from muscular action. Having had just such a case to treat we have thought it of sufficient interest to report:—The patient, Augustine T., aged 17, medical student, was engaged in a foot-race where a certain distance had to be run then to turn and run back. In the exertion of turning he felt something snap in his right hip, walked a few steps and fell. On examination distinct motion and crepitus could be felt by pressure over the process, also by placing the thumb over the origin of the Sartorius and rotating the thigh. The fracture extended into the notch below, but there was no great tendency to displacement, save when the leg was abducted, thus placing the Sartorius upon the stretch, the process doubtless, being partially kept in place by the fibres of the Tensor Vaginæ, Femoris, arising from this process on the one hand and Poupart's ligament on the other, when tension was taken off the Sartorius. The patient was placed in bed with the thigh flexed and th eshoulders raised a bandage being applied to aid in steadying the fracture. It may be as well to state that this position and adduction of the right leg was maintained by bands attached to the posts of the bed. In two weeks the patient made a good recovery without displacement.

Although the patient was a very muscular young man, yet it is difficult to believe that the Sartorius is sufficiently powerful to fracture its point of origin, but the case was examined most carefully both by Dr. McWhinnie and myself, and there was no room for doubt about our diagnosis.

Tillsonburg, Ontario, July 25th, 1870.

* The publication of this paper has been unvoidably delayed.

On the Water Supply and Drainage of Montreal. By G. P. GIRDWOOD, M.D., M.R.C.S. Eng., late Assistant Surgeon Grenadier Guards. Lecturer on Practical Chemistry at McGill University, Attending Physician, Montreal Dispensary, &c.

In selecting a place for camping ground the first consideration is to ascertain the quality and quantity of the water supply at the disposal of the campers, so in the selection of the site for a town or future city. This appears to have been the prime consideration in the minds of those who first selected the present site of Montreal, for the natural facilities for giving the city an ample supply of good pure water are not to be surpassed anywhere. Firstly, there is the magnificent water power at Lachine to raise the water to any required height; then there is the mountain whereon to place a reservoir of any capacity at almost any required height; then the water of the Ottawa river itself is in quality excellent, containing in solution scarcely any salts, only a small quantity of lime, silica and minute quantities of carbonic acid to make it palatable to drink, with a small trace of soluble organic matter, so that the natural means of water supply are excellent; but all river water contains a large amount of both animal and vegetable life. In this respect the Ottawa river is no exception, as it teems with the lower forms as also many of the larger and more commonly known varieties, but the larger and more visible forms, such as fish, &c., we need not trouble ourselves with, as they are easily prevented from leaving the reservoir in which they are either bred or into which, from accident, they find their way, but the smaller varieties are not so easily kept out. Many persons have doubtless noticed the unusually turbid appearance presented by the Montreal water at different seasons of the year, and also that at ordinary times, in fact, always, the water presents an opalescent appearance. This opalescence attracted my attention long ago, but it is only lately that I have been able to examine into its cause and nature. I find it arises from solid matter in fine division suspended through the water, the majority of which will settle on being allowed to stand. I accordingly allowed a quantity to stand and then examined the sediment under the microscope, when the whole mass was found to be made up of fragments of low types of vegetable and animal life, many forms of which I identified, and numerous bodies appearing like spores or ova of both animal and vegetable origin with small fragments of sand and some particles of dust. The quantity of sediment I obtained induced me to keep a record of it day by day, and the results I give below from the 15th of July, when I commenced my record, to the present date; the water was filtered and the residue collected, dried and weighed, the weight is represented in grains per im-

perial gallon. I also append a list of those individual forms of life which I recognized. My friend, Dr. Edwards, gave a list of a number of forms of animal life in the "Canadian Illustrated News," all of which I can confirm as well as those I now give.

The means of obviating any ill effects that might arise from the swallowing of any of the active spores or ova of animal life are within the reach of almost every one by boiling the water first and then allowing it to settle and pouring off clear. This however, destroys the pleasure of a glass of water; it is not always easy to bring it down to the temperature of a cool draught, and it is deprived by boiling not only of the living organisms in it, but at the same time of its own life, for the air which is held in solution in the water, and to which it owes its sparkle and brilliancy, is driven out by the process of heating; still a few minutes boiling will destroy the seeds, so to speak, of the numerous entozoa which find their way into the human body probably in the water.

In Well water there is much less chance of accidentally importing a colony of enemy into the body than from river water, well water being generally drawn from a depth and so covered that light scarcely find its way to the surface of the water, a condition not favourable to the develop ment of either animal or or vegetable life.

In London (England) the water supply is filtered through large filter beds, and these filters used to supply me, when there, with any amount of microscopic specimens of both forms of life, when they required cleaning, which they did from time to time, the layer of mud collected in the top of the filter yielded me an endless and interesting field of examination.

It would be a simple matter to erect a filter bed and settling tank from whence our water supply might be taken, which would obviate the supply of organic remains mixed with living animals and vegetables, too numerous to mention.

I believe that the economy to the city in saving of life, lessening sickness and its concomitant expenses, would soon repay the extra expense, and might, I think, be made to materially assist our supply during the winter months.

Now, although the quantity of living spores, &c., may be got rid of by boiling or filtering at home, &c., how many a person is there who gets up at night in the dark, goes to get a glass of water and prefers to obtain it "fresh from the tap" instead of drinking what has been standing hours in his sleeping appartment absorbing the gasses given off by the occupants asleep, and in this cup of fresh water drinks the seeds of future parasiti disease. We ought not be exposed to this chance of suffering. Our provident city fathers out of the city purse, derived from water taxes, should

find a remedy; the rich can always buy a filter for themselves. I have one and it supplies me with a rich microscopic slide whenever I want one. As cleanliness is next to godliness, to be cleanly requires a large water supply. There is a cognate subject to which I wish to draw attention, namely, our system of drainage.

It is well known that the excreta of man are as valuable as manure as the excreta of other animals, and is estimated in countries where used as such, at 6 shilling sterling per annum per head, or for Montreal, taking the population at 130,000 thousand, $300,000.

In London, Leamington, and other places where these matter fall into the common sewers and are thence carried into the rivers to pollute the streams, various methods of a chemical nature have been suggested and tried from time to time at once to utilize these matters and obtain a revenue sufficient to pay expenses and then allow the clear water to return into the river. These have all had for their basis the precipitation and fixation of all ammoniacal and phosphatic compounds, and the mechanical entanglement of organic matters suspended, in the chemical deposits. All these processes have proved failures, thus far; I was led to enquire minutely into them in consequence of one process, the subject of a patent taken out by my friend the late Mr. Lindsay Blyth, the analytical chemist to the board of health in London, and which had all the appearance of success on the face of it, and was tried by him before his death upon 1,000,000 gallons of London sewage with apparent success. Being put into my hands in conjunction with two other chemists in London, Mr. Williams and Mr. Rodgers, after his death, to see if the patent was worth anything, we carefully tested his process and found, (as I understand has since been found at Leamington is the case with the A. B. C. process lately attempted to be brought into use here,) that it was a failure in consequence of the cost of materials required being greater than the value of the result obtained. This arises from the extreme state of dilution of the valuable portions, hence I came to the conclusion that in order to utilize the excreta of man these must be kept separate from the great bulk of the liquid sewage and the rain fall. This process was carried out at Aldershot in England, where in the camp of 20,000 men proper receptacles were arranged which were covered daily with charcoal dust and removed as often as necessary by a contractor, who rented a farm of land near by, on which nothing but heather grew and out of which he made in a few years a large fortune by the crop he grew from the manure he used.

The best plan yet put before the public which contains these necessaries, is the substitution of Mr. Moules' dry earth closet for the present

water closet. This is an inexpensive apparatus, the conversion of the one into the other being very inexpensive and if put up originally the cost is about equal. That they completely answer the requirements has been amply proved. the only expense is the supply of dry earth. It will pay a company well to supply this dry earth and take it away and sell to the farmers the produce. If the corporation would undertake this themselves it would be a source of revenue :

Firstly, in the increased health of the city.

Secondly, it would relieve our present water works of a large share of their duty as compared with present waste.

Thirdly, the sale of the manure would prove a source of income to the extent of $300,000, less expenses, which may be estimated at two thirds.

Fourthly, it would save the contamination of the river, in regard to which I may state that the philanthrophy of our city fathers. brought into life by the urgent appeals of citizens, to supply public baths established two such bathing places, one at either end of the city. Now as the drains all enter the river opposite the city and the larger ones at the upper end, and as the stream of the river sets towards the city, and as any one may observe for himself the brown coloured Ottawa water flows past the city unmixed with the blue St. Lawrence, it follows that all the drainage flowing in above the city is kept close in shore all the way down. Dr. T. S. Hunt, in the Geological Survey report, informs us that the water drawn from the river opposite the city contains more chlorine than when drawn from above, and that this difference is due to local causes from the entry of drainage into the river, and which difference now amounts to .0891 grains per gallon. There is clear evidence that as the sewage does not mix entirely with the water of the river, but is carried down this shore, our corporation has clearly provided bathing waters of diluted sewage for the use of our poorer brethren. Now the excreta of sick as well as healthy persons find their way into this river, and it is a well known fact that in disease the excreta contain large quantities of microscopic, fungi ferments, and by which many diseases such as cholera, are propagated. It clearly follows that we are supplying to our bathing public a fruitful source of disease, for in bathing who can help occasionally swallowing a mouthful of water, in this case filled with the spores of disease gathered from the excreta of sick persons—a fine healthy papulum on which to feed the grim rider of the pale horse, as our city mortality shows. By the use of Moule's dry earth closet in lieu of the present water closet, taking the population at 130,000 of whom say one third use water closet daily, and use one gallon of water each time 15,695,000 of gallons would be saved annually. This does not take

into consideration the leakage in these places. Why not supply this water (free from our own sewage at any rate) to public baths and permit our working classes to enjoy a real luxurious bath in good clean wholesome water; there will be some little expense at first but what are a few dollars as compared with a few lives saved, a more healthy breed of population, and a few minds, elevated by the mere cleanliness of their bodies, towards godliness.

AVERAGE DAILY DEPOSIT IN GRAINS PER IMPERIAL GALLON.

DATES.	GRAINS PER GALLON.	
From July.....15 to " 21	.....3.47	
From " .....22 to " 28	.....2.38	
From " .....29 to Augnst..... 5	.....2.00	
From " ..... 6 to " 12	.....1.998	
From " .....13 to " 19	.....2.760	
From " .....20 to " 26	... .3.05	
From " .....27 to September..... 3	.....2.52	
From " ..... 4 to " 10	.....3.60	
From " .....11 to " 17	....3.31	
From " .....18 to " 29	.....2.705	On the 28th a curious and sudden rise to 4.808 took place.
From " .....30 to October..... 6	.....3.84	

Amount of chlorine in	gallon of water taken	from
Tap in Montreal.....	1281	
River at Canal basin...	1290	
" Molsons public bath.....	2172	Total solid residue in gallon of water taken from tap in August, 14.000.

Leucophrys Striata.
Actinophrys Sol.
Navicula viridis.
Anguillula fluviatilis.
Peranema globosa.
Scenedesmus obtusus.
Oxytricha linqua.
" Gibba.

Confervæ of various kinds.
Minutes spores zoospores.
Surirella splendida.
Gyrosigma angulatum.
Euglena viridis.
Cocconema lanceolatum.
Synedra splendeus, &c.

Canada Medical Journal.

MONTREAL, SEPTEMBER, 1870.

Our issue has again been delayed. We hope in future to be more regular.

We are indebted to the indefatigable General Secretary of the Canadian Medical Association, Dr. A. H. David, for much assistance in preparing our report of the Association meeting.

CANADIAN MEDICAL ASSOCIATION.

THIRD ANNUAL MEETING.

The third annual meeting of the Canadian Medical Association was held at Gowan's Hall; in the City of Ottawa, Province of Ontario, on the 14th and 15th of September. The attendance was not quite equal to what we had hoped it would be, several unusual circumstances occurring just at that time preventing many from being present. All sections of the Dominion were, however, very fairly represented, members being present from the extreme West, and from Halifax in the East.

FIRST DAY.

WEDNESDAY, 14TH SEPTEMBER.

The Association assembled at Gowan's Hall, at 10 o'clock. The chair was taken by the President, Hon. Dr. Charles Tupper, C.B.

Dr. Horatio R. Storer, of Boston, Dr. J. L. Sullivan, of Malden, Mass., and Dr. J. P. Garrish, of New York, delegates from the American Medical Association, were requested to occupy seats upon the platform, as was also Dr. Brouse, Prescott, Ont., President of the Ontario Medical Council.

THE HON. DR. TUPPER, in rising to address the Association, said he regretted that the great compliment they had paid him on the occasion of their last meeting had deprived them of the pleasure of listening to an address from a gentleman who would not have been compelled to tell a thrice-told tale. He would, however, assure them, that upon the present occasion he could not, in justice to the Association, accept a nomination for another term. To do so would prevent gentlemen occupying high and distinguished positions in the profession from being elevated to the distinguished position of President of the Canadian Medical Association. Three years ago the great provinces of Ontario and Quebec were united with the maritime provinces by a political confederation. The result of that union, all would admit, had been the strengthing of the

ties of social intercourse among the people of all these provinces. This political union was followed by efforts to try and unite more closely the various professional bodies in the several provinces of the Dominion, and he was proud to know that the first profession that directed its attention to union and co-operation was that to which he had the honor to belong. To Drs. Marsden and Russell, of Quebec, was due the initiatory movement for this union in the autumn of 1867, and he was glad to be able to state that the results of the efforts made by those gentlemen upon the members of the profession throughout the Dominion had been most beneficial to them, as well as to the people at large.

The object which brought them together was of a far higher motive than self-interest—viz.·. the effort to raise the standard of professional attainments, and render a most important profession more effective. With reference to a code of Medical Ethics, they had been enabled to adopt one which would not discredit the profession anywhere. At the meeting for the organization of the Association, committees were appointed to deal with the questions of both preliminary and professional education. They had felt that it was for the common interest of the country that both of them should be placed on a higher standard than heretofore. At the last meeting in Toronto, the Association adopted the reports of these committees, and had with the concurrence of that meeting taken a far higher step. They resolved that it was for the interest of the profession that one common portal of entrance should be established for the purpose of granting licenses to practice. As it was now, a medical man in Nova Scotia or New Brunswick could not legally practice in Ontario. He, for one, felt that the time had arrived when means should be taken to enable Canadian medical men to practice anywhere in this Great Dominion. He need scarcely say to the distinguished medical men from the great cities of Boston and New York, who honored them with their presence to-day, that while an effort of that kind was right, its accomplishment was fraught with difficulties of no ordinary kind. Last year a committee had been appointed, charged with the important duty of preparing a Bill which would ensure that the country should have a garantee that those who were licensed to take charge of the lives and health of the people were entitled to their confidence and respect. It was impossible to expect, constituted as men's minds are, that all would agree, but he hoped that each member of the Association would feel that, unless all were prepared in some measure to modify their peculiar views, with a view of obtaining a great result, they could never look forward to success attending their efforts. When they deliberately came to the conclusion and placed upon record the fact that they had adopted so high and so honorable a resolve, they pledged

themselves to carry forward their work to completion. He did not intend upon the present occasion to anticipate to any extent the discussion which would certainly take place upon the Bill which would be submitted to them, but would simply allude to one or two points. He believed the Association was unanimous as to the desirability of having an organization which people would be able to look up to with confidence and respect, and this he believed would be found in a General Medical Council, with the provision that every person must possess its sanction to practice medicine. He was encouraged to believe that they had accomplished a very great deal indeed, in agreeing to the principle of having a Council upon which would devolve the duty of securing a high standard from the members of a profes ion to which such interests are entrusted. It was to him a very grave question, how far Parliament should give them the means of inflicting fines and penalties upon those who undertook to trifle with the health and lives of the people without any qualification. It was one thing to know what was desirable, and another to know what was attainable. He was opposed to any legislation in that direction, for he would leave it open to every person in the country to employ and pay as they pleased for services rendered, whether that service be of a religious, legal or medical character. At the same time he would punish with the full severity of the law all persons who might falsely claim to possess certain degrees or other qualifications to practice. He would not hesitate for a moment, to thus call in the majesty of the law upon those who thus imposed upon the public who were unable to ascertain the truth or falsity of the claim.

They had the good fortune to have with them at this meeting, several distinguished medical men from the adjoining republic, whose advice and assistance would, he felt sure, be most valuable to them. He apologised for the length of his remarks, and again reminded them that this meeting would mark an important epoch in the history of the Association. It was an old and true saying "Doctors differ," and it was a fortunate thing that they did differ, for the generous and manly differences of the medical profession had been the means of some of the grandest discoveries of medical science. He trusted they would approach the great questions which would be brought before them in a spirit worthy of themselves and worthy of the great Dominion, to which they all had the honor to belong (cheers).

On motion, the following gentlemen were named a Committee of Arrangements, viz.: Drs. Grant, Henry, Van Cortlandt, McGillivray (Ottawa), Dr. J. B. Blanchet (Quebec), Dr. Francis W. Campbell (Montreal), and Dr. A. M. Roseburgh (Toronto). They made the following Report:—

The Committee of Arrangements beg leave to report that the following members have registered their names, viz.: —Drs. Charles Tupper, McNeill Parker, Halifax, N. S.; Edward Bayard, Le Baron Botsford, E. V. Steeve, Charles Johnson, St. Johns, N. B.; William Marsden, H. Blanchet, J. B. Blanchet, R. H. Russell, Quebec; Joshua Chamberlain, Frelighsburgh; F. D. Gilbert, W. Worthington, Sherbrooke, Q.; J. B, Gibson, Dunham, Q.; M. R. Meigs, Bedford, Q.; R. Palmer Howard, D. C. MacCallum, Robert Craik, Francis W. Campbell, Joseph M. Drake, William H. Hingston, Edward H. Trenholme, E. Robilliard, George E. Fenwick, William E. Scott, A. H. David, Montreal; James A. Grant, Donald McGillivray, Van Cortlandt, Walter Henry, Henderson, Garvey, Hill, Ottawa City; A. M. Roseburgh, J. P. Russell, C. B. Hall, Wm. Canniff, W. Oldright, W. W. Ogden, Toronto; E. B. Gibson, Ottawa District; McGill, Oshawa, Ont.; Alexander Bethune, Glanford, Ont.; H. Dewar, Port Hope; Edmondson, Brockville; J. R. Dickson, Oliver, Strange, Lavalee, Kingston; Lawrence, Paris, Ont.; McCargow, Caledonia, County of Haldimand; Brouse, Prescott; Sheriff Huntingdon, Q.; Rugg, Marson, Abson Johnson and J. H. McFee, (residences not designated.)

The following gentlemen registered their names as delegates, and presented their credentials, which were found correct:—H. R. Storer, M.D., Boston, Mass.; John L. Sullivan, M.D., Malden, Mass., and J. P. Garrish, M.D., New York, delegates from the American Medical Association; J. B. Blanchet, M.D., Quebec, delegate from the Quebec Medical Society; —— Lawrence, M.D., Paris, Ont., from the County of Brant Medical Society; W. Oldright, M.D., from the Medical section of the Canadian Institute, Toronto; W. W. Ogden, M.D., from the Toronto School of Medicine; J. B. Gibson, M.D., from the District of Bedford Medical Society; W. McCargow, M.D., Caledonia, from the County of Haldimand Medical Society.

On motion of Dr. Hill, seconded by Dr. Marsden, the Report of the Committee of Arrangements was received and adopted.

The General Secretary, Dr. A. H. David, then read the minutes of the last meeting of the Association.

The President then asked that, if correct, they be confirmed, whereupon Dr. Francis W. Campbell said he desired to have two or three alterations made in the minutes, the nature of which would be fully understood from the following resolutions:—

Moved by Dr. Francis W. Campbell, (Montreal) and seconded by Dr. William Marsden, (Quebec):—

That, in the recital of the report upon Preliminary Education, as

amended at the last meeting of this Association, the subjects of "History and Geography" be placed amongst the compulsory subjects as was agreed to, and be removed from the list of optional subjects where they have been erroneously placed in that recital. (See page 21, clause 2, of printed report of second annual meeting of the Canadian Medical Association).

This motion, on being put to the meeting, was carried.

Moved by Dr. Francis W. Campbell, and seconded by Dr. William Marsden :—

That the third paragraph of the second clause in the recital of the report upon Professional Education, as amended at the last meeting of this Association, shall read as it was amended, and be as follows :— "Clinical Medicine, Clinical Surgery, of each of which two courses of three months shall be required; Botany, Medical Jurisprudence, Practical Chemistry, Public Hygiene, of each of which one course of three months shall be required; and that lectures on these last subjects may be given during a three months' summer course."

On being put to the meeting, this motion was carried.

Moved by Dr. Francis W. Campbell, seconded by Dr. William Marsden :—

That the minute of the addition made to the tenth clause of the report upon Professional Education be corrected by the omission of the words "and educational examinations," it having been decided by the Association in the report upon Preliminary Education, that "the Matriculation examination be conducted by persons engaged in general teaching."

On being put to the meeting this motion was carried.

Letters from Drs. Hodder (Toronto), Robillard (Montreal), and Landry (Quebec), were read, apologizing for their absence—that of the latter gentleman on account of illness. The President having expressed his deep regret at the cause of Dr. Landry's absence, it was

Moved by Dr. W. H. Hingston (Montreal), seconded by Dr. Chamberlain (Frelighsburgh) :—

That this Association has learned with deep regret that the illness of Dr. Landry has prevented his being present at this meeting, and trusts he may speedily be restored to health. Carried.

The report of the Publishing Committee was then read, stating they had published 300 copies of the Transactions in English and 150 in French, at a cost of $92, including $12 for translation. The Committee regretted that for want of funds they were unable to print the valuable papers read and presented to the Association at its meeting last year in Toronto.

Dr. F.W. Campbell, as a member of the Publication Committee, deeply

regretted the condition in which they found themselves with regard to funds. There had been, in the two preceeding years, a far too lavish expenditure in advertising the meetings of the Association, nearly the whole amount collected at the meeting held in Toronto last year having been absorbed in advertising it. The real financial condition of the Association would, perhaps, be better understood, when he stated that the Committee had to get credit for the printing of the transactions of last year, and would have to draw upon the receipts of this year for their payment. Those who were present at the first annual meeting, held in Montreal, would remember that he had foreseen just what had occurred, and then, in its organization stated, that if the funds of the Association were to depend entirely upon payment by those present at its meetings, not many years would pass before difficulty would occur in having sufficient money to pay the printing of the transactions. He had then advocated, and was of the same opinion still, that the members should be permanent, and that whether present or absent, their subscriptions should be collected. In no other way could he see a solution of a difficulty which, under existing circumstances, each year promised to become greater, as the amount of printing increased. The non-publication of the papers read and contributed at the last meeting would, he felt sure, prevent many from preparing valuable communications, for no matter how modest a person might be, few were so excessively so, as to feel flattered by their labors being consigned to an indefinite detention in the desk of the General Secretary of the Association. He would mention, in support of this assertion, that a gentleman who last year sent a paper to the Toronto meeting, which, however, was not read, but simply handed to the Publication Committee, had, in a letter recently received from him, said, "he had intended preparing a paper for the meeting in Ottawa, but that the reception his former one had met with did not induce him to work upon another." He also trusted that this year it would be seen that no person occupied the time of the Convention, or voted upon questions which would come before them, unless they had previously paid their subscriptions. He deemed it necessary to draw attention to this fact, as at Toronto last year, quite a number, who took an active part in the proceedings of that meeting, and materially influenced more than one vote, had not then, nor had they since, paid their subscriptions.

Dr. CANNIFF (Toronto) regretted to hear the statement of Dr. Campbell. He was of opinion that the members of the Association should be permanent, and contribute towards its support, whether they attended its meetings or not. No one, he felt sure, who took an interest in the success of the Canadian Medical Association, would object to paying an

annual subscription. With reference to the non-payment of their subscriptions by many who were at the Toronto meeting, he deeply regretted that such was the fact. It was not, however, owing to any unwillingness on their part to do so, but was, perhaps, simply the result of the somewhat excited character of the meeting, and hasty manner in which much of the business of that session was conducted. He would, at a subsequent part of the present session, give notice of a motion to alter the by-laws, with a view of making the membership of the Association permanent.

Dr. TUPPER (President) asked if the expense attending the publication of one of the papers read at the Toronto meeting, was not something like two hundred dollars, owing to its peculiar tabulated form.

Dr. CAMPBELL said such was the case.

On motion of Dr. Botsford the report was received.

The Association then proceeded to appoint the Nominating Committee, when, on motion, the following gentlemen were appointed :—

Representing the Province of Ontario—Drs. C. B. Hall, W. Oldright, Walter Henry, J. R. Dickson, W. H. Brouse. Representing the Province of Quebec—Drs. Robert Craik, Francis W. Campbell, J. B. Blanchet, William Marsden, and J. Chamberlain. Representing the Maritime Provinces—Drs. Parker, Johnson, Botsford and W. Bayard.

The Association then adjourned till 2 p. m.

AFTERNOON SESSION.

The President took the chair shortly after two o'clock.

Dr. SHERIFF, (Huntingdon, Q.) read a short paper upon Veratrum Viridi and its uses. A discussion ensued, in which Drs. Lawrence, McCargow and Trenholme took part.

Dr. W. H. HINGSTON (Montreal) next read a paper on Synovitis, which gave rise to an interesting discussion, in which Drs. Canniff, Drake, Van Cortlandt, Botsford, Garrish, Sheriff, McCargow, Howard, Bethune, Grant and Trenholme took part.

On motion, the thanks of the Association were tendered to Drs. Sheriff and Hingston for their interesting papers, and that they be handed to the Publication Committee.

Dr. GARRISH, of New York, then addressed the Association. He first alluded to the Calabar bean, and the uses to which it had been put, both internally and externally. He next referred to the method adopted by himself to obtain delivery of a live fœtus in cases where, owing to a malformed pelvis, he had previously had to resort to the crotchet. He induced premature labor at the eighth month, and then had two pans

ready—one filled with warm water, and the other, shaped like a bath, arranged to float in it. On the birth of the child, he did not allow it to be washed, but had it rolled in cotton wool and placed in the second pan or bath. In this he allowed it to remain for a month, till it was a nine months' child. He spoon fed it with milk, and constantly had the water in the first basin at a temperature of about 90°. By this plan he had, in a great many cases, succeeded in saving the child. He concluded his remarks by alluding to a preparation lately introduced into New York practice, called the *Tsatsin*. It was a Chinese plant, and was given in the form of infusion, in cases of ammenorrhœa. He had reports of two hundred cases in which it had never failed.

On motion, Dr. Garrish received the thanks of the Association for his interesting remarks.

Dr. Marsden (Quebec) gave notice that at the next annual meeting of the Association he would move an alteration in the by-laws, so as to have a Standing or Permanent Committee on Ethics.

Dr. J. B. Blanchet (Quebec) moved, seconded by Dr. W. E. Scott (Montreal) :—

That Drs. McNeill Parker, Botsford, Hingston, H. Blanchet, and W: Canniff, be a special Committee on Ethics.

Dr. R. P. Howard (Montreal), as Chairman of the Committee appointed to draft a Dominion Medical Bill, reported that during the interval which had elapsed since the last meeting of the Association he had opened up correspondence with various members of the Committee, the result being the putting together of a draft of a Bill. He had, however, received little or no assistance from the Ontario members of the Committee, one member only from that Province having favored him with his views, a fact which was to him cause for deep regret. The previous day the Committee met, at least several of them, in the City of Ottawa, and the draft of the Bill discussed. The result was, that at two o'clock that morning the Bill, now in the possession of members, was adopted by the Committee and placed in the hand of the printer. He then proceeded to read over the Bill.

BILL.

Whereas, it is expedient that persons requiring medical aid, should be enabled to distinguish qualified from unqualified Practitioners, and that the laws and regulations for the education, examination, and registration of Practitioners of Medicine, Surgery, and Midwifery, should be uniform and similar throughout the Dominion of Canada; Therefore Her Majesty, by and with the advice and consent of both Houses of Parlia

ment of the Dominion of Canada, in this present Parliament assembled, enacts as follows :—

I. This Act may, for all purposes, be cited as "The Medical Act of the Dominion of Canada."

II. The Medical Profession of the Dominion of Canada is hereby incorporated under the name and style of "The College of Physicians and Surgeons of the Dominion of Canada," and shall have a corporate seal; and every member of the Medical Profession now holding a licence to practice Medicine, Surgery, and Midwifery, in any of the several Provinces of the Dominion of Canada, shall be and is hereby made a member of the said "College of Physicians and Surgeons of the Dominion of Canada," and every person who may be registered hereafter, under the provisions of this Act, shall be a member of the said College.

III. There shall be a "Council of the College of Physicians and Surgeons of the Dominion of Canada," to be appointed in the manner hereinafter provided for in this Act, and referred to in this Act as the "General Council."

IV. The General Council shall be composed of twelve members, chosen from time to time by the Universities and bodies hereinafter designated, in accordance with the following plan:—One person chosen from time to time by each of the following bodies, that is to say:—

The University of McGill.
The University of Laval.
Bishop's College, Lennoxville.
The Montreal School of Medicine.
Frederickton College, New Brunswick.
College of Sackville, New Brunswick.
The University of Victoria College.

One person chosen from time to time by the University of Toronto and the Toronto School of Medicine, collectively or alternately, as may be agreed upon by the governing bodies of those Institutions.

One person chosen from time to time by the University of Trinity College and the University of Ottawa, collectively or alternately, as may be agreed upon by the governing bodies of those Institutions.

One person chosen from time to time by the University of Queen's College, and the Royal College of Physicians and Surgeons of Kingston, collectively or alternately, as may be agreed upon by the governing bodies of those Institutions.

One person chosen from time time by King's College and Acadia College Nova Scotia, collectively or alternately, as may be agreed upon by the governing bodies of those institutions.

One person chosen from time to time by Dalhousie College, and St. Mary's College, of Nova Scotia, collectively or alternately, as may be agreed upon by the governing bodies of those institutions and of twelve members to be elected in the manner hereinafter provided, from amongst the registered members of the Medical Profession in the Dominion of Canada, not employed as teachers in any of the Universities and bodies

mentioned in this Act, by the registered members of the Medical Profession, in this Dominion, of whom four shall be residents of Ontario, four shall be residents of the Province of Quebec, two shall be residents of Nova Scotia, and two shall be residents of New Brunswick; provided always, that so soon as there shall be established in operation in any of the Provinces of Quebec, Ontario, Nova Scotia, or New Brunswick, one or more Universities or Colleges other than those designated in this section, and authorized to establish a Medical Faculty in connection therewith, and to grant degrees or diplomas in medicine and surgery, it shall be competent for the Governor and Council, so to alter the representation of the aforesaid Universities and bodies, that the above proportion between the representatives in the General Council of the teaching bodies, and of the general profession; and the above proportion between the representatives in the General Council of the teaching bodies in the several Provinces of the Dominion may be preserved.

When two or more Universities or bodies, are authorized under the preceding section to choose a member of Council, " collectively or alternately, as may be agreed upon by the governing bodies of those institution, in case of the adoption of the plan of alternate choice, that institution whose charter is of earliest date, shall have the right of exercising the first choice.

V. Of the four members to be elected from the registered practitioners of the Provinces of Ontario and of Quebec respectively, one shall be so elected from each of the Electoral Divisions of the Provinces of Ontario and of Quebec respectively mentioned in Schedule A to this Act annexed, by the registered members of the Medical Profession, resident in such Divisions; and of the two members to be elected from the registered members of Medical Profession of the Provinces of Nova Scotia and of New Brunswick respectively, one shall be so elected from each of the Electoral Divisions of the Province of Nova Scotia and of New Brunswick respectively, mentioned in Schedule A to this Act annexed, by the registered members of the Medical Profession, resident in such divisions, and the manner of holding such election shall be as follows:—

The Registrar of every Branch Council shall cause to be prepared printed forms with blanks for the name of the person to be elected and the person voting, and shall transmit by mail a registered letter containing one of these forms bearing his own (the Registrar's) signature to every registered member of the Medical Profession in the several Electoral Divisions of the Province, who shall apply for the same. The persons voting shall write the name of the person resident in his Electoral District, for whom he votes in the aforesaid printed form, shall sign his name to the same, and shall transmit the form by mail in a registered letter, to the Registrar, on or before the day named for such election in section XI of this Act. The General Council at the Annual Meeting immediately preceding such Election, shall appoint Scrutineers to examine and count the votes, and such person as shall have a majority of the votes from the Electoral Division in which he resides, shall be declared elected for such Division.

It shall be the duty of the General, Registrar immediately after the election, to inform in writing the persons elected, of their election.

VI. At the first election under this Act of members of the General Council, the term "Registered Members of the Medical Profession in the Dominion of Canada," used in Clause IV shall be held to mean persons of the "Medical Profession licensed to practice Medicine, Surgery, and Midwifery, in any of the Provinces of the Dominion of Canada."

Branch Councils.

VII. The members chosen by the Universities and Corporate bodies, and those elected by the registered members of the Medical Profession of Ontario and Quebec, respectively, shall be the Branch Councils for such Provinces respectively; and the members chosen by the Universities and Corporate bodies, and those elected by the registered members of the Medical Profession of Nova Scotia and New Brunswick, respectively, shall be the Branch Council for those two Provinces unitedly, to which branch councils shall be delegated such of the powers and duties vested in the General Council as the General Council may see fit, other than the power to make representations to the Governor General in Council; the President shall be a member of all the Branch Councils.

VIII. All members of the General Council representing the Universities and bodies mentioned in the 4th section must be registered.

IX. The members of the General Council shall be appointed or elected, as the case may be, for a period of *three* years; but any member may resign his appointment at any time by letter addressed to the President or Registrar of the said Council; and upon the death or resignation, or removal from electoral division, of any member of the said Council, it shall be the duty of the Registrar forthwith to notify the University or body, wherein such vacancy may occur, of such death, or resignation, or removal; and such University or body shall have the power to nominate another duly qualified person to fill such vacancy; or if the vacancy be caused by the death, or resignation, or removal from electoral division, of any member elected from the electoral divisions, the Registrar shall forthwith cause a new election to be made or held in such electoral division by a notice to be published in at least two newspapers, or medical periodicals published or having a circulation in the said electoral division, for not less than two weeks, fixing the time for holding such election; and such election shall be conducted as directed in section V of this Act; but it shall be lawful for the Council during such vacancy to exercise the powers hereinafter mentioned.

X. The first election under this Act for members to represent the registered members of the medical profession shall take place within two months from the final passing of this Act; and the time and places at which such first election shall be held, and the persons who shall conduct the same, shall be determined by the Governor General in Council; and the manner of conducting such election, shall be that defined in section V of this Act, the persons appointed to conduct it acting as though they were the registrars and secretaries appointed by the Council.

XI. Every subsequent election shall be held on the first Wednesday in July, in every third year after the said first election; and it shall be the duty of the General Registrar to cause a notice of the time of holding the

said election in at least two newspapers, or medical periodicals published, or having a circulation in each of the said electoral divisions in the several Provinces of the Dominion, for, at least, two weeks before the first Wednesday in July.

XII. The General Council shall hold their first meeting in the City of Montreal, on the first Wednesday next after the first election, or at any other convenient period that the Governor General and Council may appoint, and shall make such rules and regulations as to the times of the subsequent meetings of the General Council, and the mode of summoning the same, as to them shall seem expedient, which rules and regulations shall remain in force till altered at any subsequent meeting, notice of such alteration having been given to each member of the Council one month, at least, previous to the time of holding such meeting; and in the absence of any rule or regulation as to the summoning of future meetings of the General Council, it shall be lawful for the President thereof, or in the event of his absence or death, for the Vice-President, on the requisition in writing of any two members of Council to summon the same at such time as to him shall seem fit, by circular letter to be mailed to each member; and all meetings of the General Council, subsequent to the first, shall be held at Toronto and Montreal, alternately, at Halifax and St. John every alternate third year, and that at least four weeks notice of such meeting be given; and in the event of the absence of the President from any meeting, the Vice-President, or in his absence, some other member to be chosen from among the members present, shall act as Chairman; and all the acts of the General Council shall be decided by the majority of the members present, the whole number not being less, than nine; and at all meetings the President, for the time being shall have a vote only as a member of the Council.

XIII. The General Council shall have power to appoint executive committees out of their own body, of which the quorum shall not be less than three, and to delegate to such committees such of the power and the duties vested in the General Council as the Council may see fit, other than the power of making representations to the Governor General in Council.

XIV. There shall be paid to the members of the Council, only their actual expenses for travellin , board, and lodging.

XV. The General Council shall annually elect from amongst themselves a President, and a Vice-President, and shall appoint, every third year, a General Treasurer, and a General Registrar, who shall act respectively as General Treasurer, and General Registrar and Secretary for the General Council; and the persons so appointed shall, likewise, act as Treasurer, and Registrar and Secretary for the Branch Council of the Province of Quebec; the General Council and the Branch Council for Quebec shall also appoint, from time to time, such other officers as may be needed for the purposes of this Act; and every person so appointed by any Council shall be removable at the pleasure of that Council, and shall be paid such salary of fees as the Council by which he was appointed shall fix by by-law, or from time to time.

XVI. The Branch Council for Ontario, and that for Nova Scotia and

New Brunswick, shall each respectively in like manner appoint a Registrar and such other officers as may from time to time be needed for the working of this Act, who shall be paid such salaries or fees as such Branch Councils respectively shall think fit, and be removable at the pleasure of the Council by which they were appointed, and the person appointed Registrar shall also act as Secretary to the Branch Council, and may also act as Treasurer, unless the council shall appoint some other person Treasurer.

XVII. All monies payable to the respective Councils shall be paid to the Treasurers of such councils respectively, and shall be applied to defray the expenses of carrying this Act into execution in manner following: that is to say, separate accounts shall be kept of the expenses of the General Council and of those of the Branch Councils; and the expenses of the General Council, including those of keeping, printing, and publishing the Registrar for the Dominion, shall be defrayed, under the direction of the General Council, by means of an equal per centage rate upon all moneys received by the several Branch Councils; returns shall be made by the Treasurers of the respective Branch Councils, at such times as the General Council shall direct, of all monies received by them, and the necessary per centage having been computed by the General Council, the respective contributions shall be paid by the Treasurers of such Branch Councils to the Treasurer of the General Council; and the expenses of the branch councils shall be defrayed, under the direction of these Councils respectively, out of the residue of the moneys so received as aforesaid. Should any surplus income remain after all the necessary expenses of any Branch Council have been paid, it shall be lawful for that Branch Council to apply all or any part of such surplus to any public purposes connected with the medical profession, or for the promotion of education in medicine and surgery, or for the advancement of medical or surgical science in any way, as shall be agreed to by two-thirds of the members of the Branch Council interested.

XVIII. The General Council shall cause to be kept by the General Registrar, a book, or register, to be called the general register, in which shall be entered, from time to time, the names of all persons who have complied with the enactments hereinafter contained, and with the rules or regulations made or to be made by the Council respecting the qualifications to be required from practitioners of medicine, surgery, and midwifery in the several Provinces of the Dominion of Canada; and those persons only whose names have been or shall hereafter be inscribed in the general register above mentioned, or in the local registers hereinafter mentioned, shall be deemed to be qualified and licensed to practise medicine, surgery, and midwifery in the several Provinces of the Dominion of Canada; and both such general and such local books or registers shall at all times be open and subject to inspection by any duly registered practitioner in the Dominion of Canada, or by any other person, on the payment of the fee of twenty-five cents.

XIX. Where any person entitled to be registered under this Act applies to the Registrar of any of the said Branch Councils for that purpose, such Registrar shall forthwith enter in a local register, in the form set forth in Schedule (B) to this Act, or to the like effect, to be kept by

him for that purpose, the name, and place of residence, and the qualification or several qualifications in respect of which the person is so entitled, and the date of the registration; and shall, in the case of the Registrar of the Branch Council for Ontario or for Nova Scotia and New Brunswick, with all convenient speed send to the Registrar of the General Council a copy, certified under the hand of the Registrar, of the entry so made, and the Registrar of the General Council shall forthwith cause the same to be entered in the general register; and such Registrar shall also forthwith cause all entries made in the local register of the Province of Quebec to be entered in the general register, and the entry in the general register shall bear date from the local register.

XX. It shall be the duty of the Registrars to keep their respective registers correct in accordance with the provisions of this Act and the orders and regulations of the General Council, and to erase the names of all registered persons who shall have died, or removed from the Province, and shall from time to time make the necessary alterations in the addresses or qualifications of the persons registered under this Act; and to enable the respective Registrars duly to fulfil the duties imposed upon them, it shall be lawful for the Registrar to write a letter to any registered person, addressed to him according to his address on the register, to enquire whether he has ceased to practice, or has changed his residence, and if no answer shall be returned to such letter within the period of six months from the sending of the letter, it shall be lawful to erase the name of such person from the register, provided always that the same may be restored by the direction of the General Council, should they think fit to make an order to that effect.

XXI. Every member of the medical profession, who at the time of the passing of this Act, may be possessed of a *license* to practice medicine, surgery, and midwifery in any of the Provinces of the Dominion of Canada, shall, on the payment of the fee of one dollar, be entitled to be registered on producing to the Registrar of the Branch Council for Ontario, Quebec, or Nova Scotia and New Brunswick, the document conferring or evidencing the qualification, or each of the qualifications in respect whereof he seeks to be so registered, or upon transmitting by post to such registrar, information of his name and address, and evidence of the qualification or qualifications, in respect whereof he seeks to be registered, and of the time or times at which the same was or were respectively obtained, provided he registers within one year after the final passing of this Act, and every member of the medical profession, who, within the period of six months after the final passing of this Act, shall have become possessed of such qualification or qualifications as would have entitled him at the time of passing this Act, to practice medicine, surgery, and midwifery in any of the Provinces of the Dominion of Canada, shall, on complying with the requirements in this section mentioned, and on the payment of a fee to be fixed by a by-law of the General Council, but not to exceed ten dollars, be entitled to be registered.

Any person who has been actually practising medicine, surgery, and midwifery in the Provinces of New Brunswick and Nova Scotia, before the year one thousand eight hundred and fifty-five, shall be entitled to be

registered on his producing to the local or general registrar, in affidavit made before a Justice of the Peace, establishing the fact, and shall pay a fee to be fixed by the General Council.

XXII. Every member of the medical profession desirous of being registered under this Act, and who shall not have been possessed of a license to practice medicine, surgery, and midwifery in any of the aforesaid Provinces of the Dominion of Canada, before the expiration of six months after the final passing of this Act, shall, before being entitled to registration, pass an examination as to his knowledge and skill for the efficient practice of medicine, surgery, and midwifery, before one of the examining boards appointed by the General Council, and obtain a degree or diploma from one of the Universities, or bodies mentioned in section IV of this Act, or from any other body or University which may be hereafter authorised to establish a medical faculty in connection therewith, and to grant degrees or diplomas in medicine and surgery in Canada, or from any other University or College, whose general and professional requirements may be accepted by the General Council as equivalent to its own, and such person having further proved to the satisfaction of the Board of Examiners, before whom he is examined, that he has complied with the rules and regulations made by the Council, and having paid such fees as the Council may determine, shall be entitled to be registered to practice medicine, surgery, and midwifery in any part of the Dominion of Canada.

XXIII. All persons registered under the Imperial "Medical Act" 21 and 22 Vict., Chap. 90, or under any Act amending the same, shall be entitled to registration under this Act and shall enjoy all benefits appertaining to such registration, provided the same privileges be accorded to registered members of the College of Physicians and Surgeons of the Dominion of Canada in Great Britain.

XXIV. Where any medical diploma, degree or title, granted by any University, College, or body in Great Britain, or in any British possession other than the Dominion of Canada, or in any foreign country is granted in the respect of the like degree of knowledge and the like education to that which is required for obtaining registration under this Act, the General Medical Council may from time to time place such diploma degree or title, upon a list to be kept and published by them, and if at any time any such medical diploma, degree or title cease to be granted in respect of such like degree of knowledge or education as aforesaid, they may remove the same from such list.

All holders of any medical diploma, degree or title, placed upon such list, shall be entitled to be registered under this Act, with or without examination, and on such terms as the General Medical Council may from time time determine.

No person who has obtained any such medical diploma, degree or title before the same is added to such list or the earlier date if any, (whether before or after the passing of this Act) fixed by the General Medical Council, shall be entitled to be so registered, and the removal of any diploma, degree or title from such list, shall not deprive any person entitled to be registered before such removal of his right to be so registered.

Where the General Medical Council are satisfied of the eminent professional acquirements and character of any person who for more than ten years has been practising medicine or surgery in the United Kingdom of Great Britain, or in any British possession or foreign state, they may, by a special order, direct such person to be registered under this Act, and such person may be registered accordingly.

XXV. At the first regular meeting of the General Council, after the final passing of this Act, and at the first regular meeting of the same after every Triennial Election, there shall be appointed by the members of the General Council three Boards of Examiners, one for Ontario, one for Quebec, and one for the two Provinces of Nova Scotia and New Brunswick, whose duty it shall be to examine all candidates for registration, in accordance with the bye-laws, rules, and regulations of the General Council; such examinations to be held in Toronto for the Province of Ontario, in Montreal for the Province of Quebec, and in Halifax and St. John, alternately, for the two Provinces of Nova Scotia and New Brunswick.

XXVI. The Boards of Examiners appointed under the preceding section, shall be composed as follows:—Two-thirds of the members of the Ontario Examining Board shall be elected from the three incorporated medical schools now existing in Ontario, and from every other school of medicine which may be hereafter organized in connection with any University or College, which is empowered by law to grant medical and surgical degrees or diplomas, each body being represented as far as possible by an equal number; and one-third shall be chosen from among the Ontario members of the College of Physicians and Surgeons of Canada, not employed in teaching in any of the above teaching bodies.

The Quebec Examining Board shall consist of a French and an English section;—of the French section, two-thirds shall be elected from the two incorporated French medical schools now existing in the Province of Quebec, and from every other French school of medicine which may be hereafter organized in connection with any University or College which is empowered by law to grant medical and surgical degrees or diplomas, each body being represented as far as possible by an equal number, and one-third shall be chosen from the French speaking Quebec members of the College of Physicians and Surgeons of Canada, not employed in teaching in any of the above teaching bodies.

Of the English section, two-thirds shall be elected from the incorporated English Medical School now existing in the Province of Quebec, and the Medical School of Dalhousie College, Nova Scotia, each body being represented, as far as possible, by an equal number, and one-third shall be chosen from the English speaking Quebec members of the College of Physicians and Surgeons of Canada not employed in teaching in any of the above teaching bodies; provided always that so soon as another English School of Medicine shall be organized in the Province of Quebec in connection with any University or College in that Province which is empowered by law to grant medical and surgical degrees or diplomas, then two-thirds of the Examining Board shall be elected from the English incorporated Medical Schools then existing in the Province

of Quebec, each body being represented, as far as possible, by an equal number, and one-third shall be chosen from among the English speaking Quebec members of the College of Physicians and Surgeons of Canada, not employed in teaching in any of the above teaching bodies.

Two-thirds of the members of the Examining Board of the two Provinces of Nova Scotia and New Brunswick shall be elected from the Medical School now existing in Nova Scotia, and the incorporated English Medical School in the Province of Quebec, each body being represented, as far as possible, by an equal number, and one-third shall be chosen from the New Brunswick members of the College of Physicians and Surgeons of the Dominion of Canada, not engaged in teaching in any of the above teaching bodies; provided always that so soon as another Medical School shall be organised in either the Province of Nova Scotia or of New Brunswick, in connection with any University or College in either Province which is empowered to grant medical and surgical degrees or diplomas, then two-thirds of the Examining Board shall be chosen from the Incorporated Medical Schools then existing in the two Provinces of Nova Scotia and New Brunswick, each body and each Province being represented, as far as possible, by an equal number, and one-third shall be chosen from amongst the Nova Scotia and New Brunswick members of the College of Physicians and Surgeons of the Dominion of Canada not employed in teaching in any of the above teaching bodies.

XXVII. The General Council shall have power and authority to appoint examiners to institute and conduct the examination of Medical students in preliminary or general education, and to make by-laws and regulations for determining the admission and enrolment of students; and the examiners shall be persons engaged in general teaching, and officially connected with the Universities, Colleges, or Seminaries of the Dominion.

The following shall be the subjects for such preliminary examination:—Compulsory:—English or French language, according to nationality of student, including grammar and composition; history, geography, arithmetic, including vulgar and decimal fractions; including algebra, simple equations; geometry, first two books of Euclid; Latin, translation and grammar; and one of the following optional subjects: Greek, French or English, according to nationality of student, German, natural philosophy, including mechanics, hydrostatics, and pneumatics.

(2.) Any Graduate in Arts of any University in Her Majesty's Dominions shall not be required to pass the examination in general education.

XXVIII. The General Council shall have power and authority to fix and determine, from time to time, a curriculum of professional studies to be pursued by Medical Students, of which the following shall be the minimum:—

Descriptive Anatomy, Practical Anatomy, Chemistry, Materia Medica, Institutes of Medicine, consisting of Physiology and General Pathology, Theory and Practice of Medicine, Principles and Practice of Surgery, Midwifery, and Diseases of Women and Children, of each of which two courses of six months shall be required:

Clinical Medicine and Clinical Surgery, of each of which one course of six months, or two courses of three months, shall be required; Botany

Medical Jurisprudence, Practical Chemistry, and Public Hygiene, of each of which one three months' course shall be required:

Practical Pharmacy, for a period of three months—attendance during twelve months, the practice of a general hospital, where daily average of in-door patients is not less than fifty:

Attendance on the practice of a lying-in hospital for six months, or evidence of having attended six cases of midwifery.

The time of commencing the professional education of medical students shall date from the time of having passed the preliminary examination required under this Act, and shall extend over a period of not less than four years.

Such curriculum of studies shall be observed and taught, and the above period occupied in professional study shall be adhered to by all Universities or bodies referred to in Section 4 of this Act; Provided always, that the above duration of professional education and curriculum of preliminary and professional studies shall, before being altered, first receive the approval of the Governor General in Council, and be published twice in the *Canada Gazette* and in each one of the medical journals published in the several Provinces of the Dominion, and that no change in the foregoing minimum curriculum at any time existing shall come into effect until six months after its first publication in the said *Canada Gazette*.

XXIX. No Medical School, other than those now in actual operation, shall be established after the passing of this Act, in any part of the Dominion of Canada, unless with the consent and approval of the General Medical Council.

XXX. The General Council shall, from time to time, as occasion may require, enact orders, regulations or by-laws for regulating the registers to be kept under this Act, and the fees to be paid for registration; and shall, from time to time, make rules and regulations for the guidance of the Boards of Examiners, and may prescribe the subjects and mode of examination, the times of holding the same, and generally make all such rules and regulations in respect of such examinations, not contrary to the provisions of this Act, as they may deem expedient and necessary; such examinations to be oral, written and practical.

XXXI. Any person entitled to be registered under this Act, but who shall neglect or omit to be so registered, shall not be entitled to any of the rights or privileges conferred by the provisions of this Act, so long as such neglect or omission continues.

XXXII. Any Registrar, who shall wilfully make, or cause to be made, any falsification in any matters relating to the register, shall incur a penalty of fifty dollars, and shall be disqualified from again holding that position.

XXXIII. Every person registered under this Act, who may have obtained any higher degree, or any qualification other than the qualification in respect of which he may have been registered, shall be entitled to have such higher degree or additional qualification inserted in the register in substitution for, or in addition to, the qualification previously registered, on the payment of such fee as the Council may appoint; provided

such higher degree or additional qualification receive the approval of the General Council, either by vote or by-law.

XXXIV. No qualification shall be entered on the register either on the first registration, or by way of addition to a registered name, unless the Registrar be satisfied by proper evidence that the person claiming is entitled to it; and any appeal from the decision of the Registrar may be decided by the Branch Council of the Province, or by further appeal to the General Council; and any entry which shall be proved to the satisfaction of such Branch, or General Council, to have been fraudulently or incorrectly made, may be erased from the register by order in writing of such Branch, or General Council: Provided always, that in the event of the Registrar being dissatisfied with the evidence adduced by the person claiming to be registered, he shall have the power, subject to an appeal to the Council, of refusing the said registration, until the person claiming to be registered shall have furnished such evidence, duly attested by oath or affirmation before any Justice of the Peace in the Province in which he resides.

XXXV. Every person who shall be registered under this Act shall be entitled, according to his qualifications, to practice Medicine, Surgery and Midwifery, or any of them, as the case may be, in any part of the Dominion of Canada, and to demand and recover in any Court of Law, with full costs of suit, reasonable charges for professional aid, advice and visits, and the cost of any medicine, or other medical or surgical appliances rendered or supplied by him to his patients, and for medical testimony in Courts of Law, and for written medical certificates: Provided always, that no person not entitled to registration, within six months after the commencement of this Act, shall be registered upon any single qualification as that of Physician or Surgeon or Accoucher, but must have passed the examination in Medicine, Surgery and Midwifery, and complied with the other requirements mentioned in Clause XXII of this Act, as qualifying for registration. When a person has obtained, before the passing of this Act, a qualification to practice in Medicine, or in Surgery, or in Midwifery, or in any two of these departments, but not in all of them, and persons may be admitted to the examinations under this Act on such special terms as may be provided on that behalf by the General Council.

XXXVI. The Registrar of the General Council shall, from time to time, under the direction of the General Council, cause to be printed and published a correct register of the names in alphabetical order, according to the surnames, with the respective residences, in the form set forth in Schedule B to this Act, or to the like effect, together with the medical titles, diplomas and qualifications conferred by any college or body, with the dates thereof, of all persons appearing on the register as existing on the day of publication; and such register shall be called "The Medical Register," and a copy of such register for the time being, purporting to be so printed and published as aforesaid, shall be *primâ facie* evidence in all Courts, and before all Justices of the Peace and others, that the persons therein specified are registered according to the provisions of this Act; and the absence of the name of any person from such copy shall be *primâ facie* evidence that such person is not registered according to the

provisions of this Act: Provided always, that in the case of any person whose name does not appear in such copy, a certified copy under the hand of the Registrar of the General Council, or of any Branch Council, of the entry of the name of such person on the register, shall be evidence that such person is registered under the provisions of this Act.

XXXVII. Any registered member of the medical profession who shall have been convicted of any felony in any court, or who shall, after due enquiry, be judged by the General Council to have been guilty of infamous conduct in any professional respect, shall thereby forfeit his right to registration, and, by the direction of the General Council, his name shall be erased from the Registrar; or in case a person known to have been convicted of felony, or judged guilty of such infamous conduct, shall present himself for registration, the Registrar shall have power to refuse such registration.

XXXVIII. No person shall be entitled to recover any charge in any Court of Law for any Medical or Surgical advice, or for attendance, or for performance of any operation, or for any medicine which he shall have prescribed or supplied, unless he shall prove upon trial that he is registered under this Act.

XXXIX. Every person registered under this Act shall be exempt, if he shall so desire, from serving on all juries and inquests whatsoever, and from all corporate township offices, and from serving in the militia.

XL. No person shall be appointed as Medical Officer, Physician, or Surgeon in any Branch of the Public Service in any of the Provinces of the Dominion of Canada, or in any Hospital or other Charitable Institution in any of the aforesaid Provinces not supported wholly by voluntary contributions, unless he be registered under the provisions of this Act.

XLI. No certificate required by any Act now in force, or that may hereafter be passed in any part of the Dominion of Canada, from any Physician or Surgeon or Medical Practitioner, shall be valid unless the person signing the same be registered under this Act.

XLII. If any person shall wilfully procure or attempt to procure himself to be registered under this Act, by making or producing or causing to be made or produced any false or fraudulent representation or declaration, either verbally or in writing, every such person so offending, and every person knowingly aiding and assisting him therein shall incur a penalty of fifty dollars.

XLIII. Any person who shall wilfully and falsely pretend to be a professor of medicine, professor of surgery, physician, doctor of medicine, bachelor of medicine, licentiate in medicine and surgery, master of surgery, surgeon, or general practioner, or shall falsely take or use any name title, addition, or description implying that he is a physician, surgeon, or accoucheur, or a licentiate in medicine, surgery or midwifery, or a practitioner in medicine, shall upon a summary conviction before any Justice of the Peace, for any such offense, pay a sum not exceeding one hundred dollars, nor less than twenty-five dollars.

XLIV. The General Council and also any Branch Council may take proceedings against any person for the contravention of Clauses XLII and

XLIII of this act, and no prosecution for the contravention of these sections, shall be instituted by any private person, except with the consent of the General Council or of some Branch Council,—and all penalties imposed by this Act shall be recoverable, with full costs of suit by the General Council, or by any Branch Council in the name of the College of Physicians and Surgeons of the Dominion of Canada.

XLV. Any sum or sums of money arising from conviction and recovery of penalties as aforesaid shall be paid to the Treasurer of the Geneneral Council.

XLVI. All notices and documents required by this Act to be sent, may be transmitted by post, and shall be deemed to have been received at the time when the letter containing the same would have been delivered in the ordinary course of post; and in proving such sending, it shall be sufficient to prove that the letter containing the notice or docuwas pre-paid, and properly addressed and put in the post. Notices and documents may be in writing or in print, or partly in writing and partly in print.

XLVII. The General Council may make representations to the Governor General in Council upon sanitary subjects, and when called upon shall give its opinion respecting matters touching the Public health.

XLVIII. The provisions of this Act shall not extend to Manitoba, but as regards that Province or any other that may be hereafter added to the Dominion of Canada, it shall be competent for the Governor General in Council, on the recommendation of the General Council and with consent of such Province or Provinces, to extend the provisions of this Act to such Provinces or Provinces, the representatition in Council of such additional Province or Provinces to be proportionate to that of the Provinces now to be represented by the terms of this Act.

XLIX. All Acts in the several Provinces of the Dominion of Canada inconsistent with this Act are hereby repealed.

Dr. Howard having concluded, it was suggested that the Association adjourn till the next day, so that members might have an opportunity to study the Bill. This being the view of members, on motion the Association adjourned at 6 o'clock till half-past nine the following morning.

SECOND DAY.

Thursday, 15th September, 1870.

The chair was taken by the President, Dr. Tupper, at 10 o'clock.

The minutes of the previous day's meetings were read and confirmed.

The following gentlemen were elected permanent members of the Association, viz.: Drs. Sweetland, McGillvray and Leggo, of Ottawa; Drs. McGrath and Gauvreau, of Quebec; Dr. L. R. Church, M.P.P., Aylmer (Ont.); Dr. Vaux, Brockville; Dr. William Mostyn, Almonte; Drs. Schultz and Lynch, Winnipeg, Manitoba.

The Committee on Ethics reported as follows: "That the only case

which has as yet been submitted for its consideration, is that of Dr. A. M. Rosebrugh of Toronto, who, at the meeting of the Association held last year in Toronto, resigned his position as a member of the Committee on Ethics. Your Committee, after having fully investigated the facts and circumstances of the case, reports that it has ascertained nothing which can effect either the professional standing or character of Dr. Rosebrugh. Your Committee would avail itself of this occasion to recommend the propriety and expediency of all charges affecting the character and standing of members of the Association being referred to the Committee on Ethics before they are submitted to the Association in open session. (Signed), D. McNeill Parker, M. D., chairman.

It was then moved by Dr. R. Palmer Howard, seconded by the Hon. Dr. McNeill Parker: "That the report of the Medical Bill Committee be now discussed," which motion was carried.

Dr. R. Palmer Howard, (Montreal), as chairman of the Committee which presented the bill, read the previous evening, was desirous of making a few observations. The Committee had accepted the great principle which in Great Britain had agitated the medical mind, viz.: representation in all legislative medical bodies of the schools and the general profession. In England, the measure had for the present fallen through because the schools would not yield the point of general representation. We adopted, however, the principle, already adopted in Ontario to have the schools and the general profession respectively represented. In a great measure it resembled the Ontario Medical Act, and for the very good reason that that Act was almost a literal copy of the Medical Act of Great Britain of 1858. The second great principle in the Bill, involved the details of representation in the General Council. That body was to consist of twelve representatives from the schools, and twelve from the general profession. The two great Provinces of Ontario and Quebec have each eight representatives assigned them while the Maritime Provinces divide eight between them. In the distribution of the representation amongst the Universities and Schools in the several Provinces a difficulty arose out of the fact that the numbers of those bodies are not equal in the several Province's, there being for example seven in Ontario and but four in Quebec. To maintain therefore the due proportion in each Province of half the representatives from the schools and half from the general profession, the plan was adopted of assigning one representative to two institutions, to be nominated either collectively or alternately as may be agreed upon by those bodies. Thus the University of Toronto and the Toronto School of Medicine, affiliated institutions would have one representative in the Council; the University of Queen's College and the

Royal College of Physician and Surgeons of Kingston, would have one, and so on. This principle of distribution was not unique for according to the British Medical Act of 1858, the ancient University of Edinburgh, the Athens of medicine, divides its representation in the general Medical Council with two smaller Universities, while Oxford and Cambridge have one each. In the Bill provision was made for branch Councils in the Provinces of Quebec and Ontario, while Nova Scotia and New Brunswick were to have one between them. The third great principle of the Bill declared that there shall be a central examining board appointed by the Council in each Province, to examine persons intending to practise medicine in the Dominion. It would thus be seen that the schools were called upon to give up the right which most of them had enjoyed and which entitled the holder of their degree to a license to practice with out further examination. If this act should become law, all graduates would have to present themselves before the Central Board for examination, previous to being licensed to practice. This in his opinion was a great come down indeed to Universities. And lastly a great difficulty they had to deal with was that there were sects in our profession. On going before a Legislature it was always a difficulty to exclude those sects from being recognised or having the same status as ourselves. The legislation in Ontario, whereby there was a formal recognition of the sects in the Medical Council of that Province, had seemed to him, as well as to many others, to have been the great mistake of the Ontario Medical Bill; otherwise it was very good. This question of sects was then the great difficulty they had to contend with, and he hoped they would be unanimous in their method of dealing with it, for if divided among themselves they could not possibly hope to succeed. He need not furtaer enter in o details, as doubtless since the Bill was read yesterday afternoon the majority of members had studied it carefully, and were now prepared to discuss it. He hoped they would do so fairly and candidly. In a measure of this kind, if they hoped to succeed, they must all be prepared to give way somewhat. If all could act in this spirit he would be hopeful of the result. (Cheers.)

The Hon. Dr. McNeill Parker, (Halifax N. S.,) said he felt it necessary to say but little, as doubtless all had scanned the Bill carefully and mastered its general principles since it was placed in their hands the previous day. The great object of it to his mind was the elevation of the profession. All were in duty bound to do something and he hoped when he passed away from his present sphere of action to leave the profession a little better than he found it. It had been the desire of the framers of the Bill to have a fair and equitable one for the

whole Dominion, where there should be equality in the preliminary and professional examinations. Dr. Howard had referred to the sects. They had tried to meet the difficulty, and trusted that they would find their efforts seconded by this meeting. If they hoped to succeed all must be prepared to modify their views to some extent. If they did not act in this spirit, success would never attend their efforts.

Dr. McGill, M. P., (Oshawa, Ont.) said he would try and keep cool though some of his friends thought he did not always do so. He had received at various times a good deal of kicking in consequence of his connection with the Ontario Medical Bill, but as in that Province all were contented with it and happy, he did not mind the abuse. He had given the Bill a cursory examination, and he took more exceptions to it than he thought he should, when he heard it read the previous day by Dr. Howard, the chairman of the Committee. He was not prepared to charge the framers of the Bill with unfairness, though he must confess it looked liked it, but he trusted from what Dr. Howard said it would not turn out so. He was surprised at the representation, but would only allude to it, as this question would come up when the Bill was discussed clause by clause. He would, however, remark that the great feature of the Ontario Medical Bill was left out, and he had no hesitation in saying that no Bill would be acceptable to the profession in that Province, which left out the homœopathic and eclectic members of the profession., (No, No.) We in Ontario knew more about them than do the members of the profession in the Province of Quebec, where they are few in number. He for one would say he had no wish to stamp them out. On the contrary he desired to bring them up to a good position in the great fundamental principles of the profession. Not one homœopathic or eclectic came up for examination last spring at the Meeting of the Ontario Council at Kingston, and what was equally as satisfactory to him, not one half the usual number of regulars that had previously been annually set loose in Ontario. The profession in Ontario gave some opposition to the passage of the Ontario Bill, when it was before the Local Legislature, but since the last examination they were more than ever satisfied with it, and were determined to give it a fair trial. He would say that he did not consider it dishonorable to sit in Council with homœopaths and eclectics when the object was the elevation of the profession in its great fundamental principles, nor did this association any more than previously render it necessary to consult with them. He did not exactly understand the clauses with reference to the Branch Councils and examinations. What they wanted was one great Central Board for the whole Dominion. It was this want, and the substitution of those Branch

Councils, which contributed not a little to the recent failure of the English Act. He would try and deal candidly with the Bill, ever bearing in mind the good of their common profession. Before sitting down he reminded the association that the Ontario Act was working well, and that the Dominion Parliament would not thrust another upon them.

Dr. Botsford, (St. John, N. B.,) said he was one of the Committee appointed to draft this Bill, and had communicated his views by letter to the chairman, but he was not present at the discussion of the Bill. He had not received any notice that he was a member of the Committee until about six weeks ago. He was opposed to the Bill in many details, but primarily opposed to the legislature saying which was the regular profession.

Dr. Bethune, (Glanford, Ont.) thought much of the present discussion was useless, as the same ground would again be gone over when discussing the Bill clause by clause. He suggested that at once it be taken up in this way. He believed all admitted that we wanted a Bill, a good Bill for the entire Dominion.

Dr. J. R. Dickson, (Kingston) wished to disabuse the mind of the Association of the idea that the profession in Ontario recognised homœopaths. They did not recognise them though forced on them by the Legislature.

Dr. Dewar, (Port Hope, Ont.,) said from what he knew personally, he thought nothing would give the homœopaths greater pleasure than not to be embraced in this Bill. They would then get their own charters, and those in Ontario would have to fight them allover again. The great majority of those who previous to the passing of the Ontario Act, passed the Homœopathic Board were not homœopaths, but, the *reliquia* of the schools, who failing at their own schools, for a *douceur*, got through the homœopathic examination. He would not allude to any details of the Bill further than to say he was opposed to the clause which made it compulsory for members of the profession, desirous of registering who may not be in possession of a license to practice within six months after the passing of the Act, to obtain a University degree. Such was not the case in the Ontario Medical Bill.

Dr. Oldright, (Toronto) felt it his duty as a member of the Ontario Medical Council to make a few observations, which, though perhaps they might not at first seem to be strictly upon the Bill before the Association, had really a most important bearing upon it. He had supported the Ontario Act, so far as the Central Board was concerned, but he did not recognize, on the contrary had opposed, and would continue to oppose, the union of the homœopaths and eclectics with the

members of the regular profession. Some friends of the Ontario Bill had said it was going to stamp out the sects, and in proof of the assertion pointed to the fact that at the last meeting of the Council at Kingston, not a homœopathic or eclectic student had come forward for examination. He did not believe it was going to stamp them out, and that the reasons for this state of things was well known to the members of the Ontario Council, and would before long pass away. Dr. McGill had said the professsion in Ontario were satisfied with their Act, and that no Act without the homœopathic and eclectic combination would be acceptable to them. This assertion he (Dr. Oldright) denied *in toto*. It was true that some were in favour of giving it a fair trial now that it was law, but a large majority of the profession were bitterly opposed to the combination of the sects and looked upon the association with them as anything but a creditable one. A document denouncing the combination clause in the Ontario Act had been prepared, and he was in hopes to have had it in his possession and read it to the meeting, but he had been disappointed. He would, however, say it had he believed been signed by every regular practitioner in the city of Hamilton and Ottawa, and by nearly all in Toronto and Kingston. It would thus be seen that only one large centre of civilization in Western Canada, viz., London, had not expressed any opinion on this subject; all the others had spoken very decidedly. So far as he knew the only portion of Ontario really in favour of the Ontario Bill was the extreme west, where Dr. Clarke, the late President of the Council, wielded very great influence. Any one who knew that gentlemen could easily understand why such was the case. His great warmth, apparent plausibility and honesty was such that it was almost impossible to withstand him. With regard to the happy results which Dr. McGill stated had already taken place, at the risk of refutation he would say that the reason why no homœopathic or eclectic student had last spring appeared for examination was that Dr. Campbell had said none would come unless certain amendments were made, and, as he is autocrat none did present themselves.

Dr. McGill (Oshawa) not amendments, but certain privileges.

Dr. Oldright said they wished to separate diagnosis and pathology, and the right to examine our own students. He thought it due to a very large section of the profession in Ontario, who had been misrepresented that he should make these explanations.

Dr. Hingston (Montreal) thought the members of the Association were wandering away from the Bill presented by the Committee, and were discussing the Ontario Medical Act. With the general tenor of the

Bill before them he agreed although in some points he differed, and some opposed altogether. He thought there was need for a Bill for the whole Dominion. A few years ago all were satisfied with a physician's standing if he had a University diploma. Now, owing to the increase in schools and a rivalry presumed, rightly or wrongly to exist between them, the public and even the profession itself did not place the same confidence in University examinations as heretofore. Hence the necessity of a Central Board, whose examinations, would, like Cæsar's wife, be above suspicion. He, thought the system of medical education was not as complete in this country as it was in Prussia and Austria, whose systems he proceeded generally to describe. He however, thought that the Canadian physician was as highly educated professionally—although not classically, as any in the world.

Dr. Lawrence, (Paris, Ontario) said he appeared before the Association as the delegate from the County of Brant Medical Society. This society was decidedly opposed to the homœopathic and eclectic clauses of the Ontario Bill and had passed resolutions to that effect, which he would read to the Canadian Medical Association. He had been instructed by the Society he represented to oppose any union with the sects in the bill which the Committee of this Association might present, but to support with all his influence the formation of a Central Board for the Dominion. The County of Brant Medical Association uttered no uncertain sound with reference to this question of the relative positions of the regular practitioner and the homœopath. It refused not only to admit to its membership any one who in any case whatever consulted with a homœopath, but likewise any one who consulted with those who consulted with any one who practised any exclusive dogma—(cheers.)

Dr. C. B. Hall (Toronto) thought the Ontario Medical Bill a mistake, but if we ignored the homœopaths, would they not fall back upon their old enactments. He therefore begged of the Association in mercy not to cast loose upon them in Ontario a class of men who practised a fraud, and whom we think we have in a measure subdued.

Dr. Phillips (Grahamsville, Ontario) was in favour of a general Bill for the Dominion with a Central Examining Board. He was opposed to any union with homœopaths or eclectics, for he was certain that in time all false doctrines would pass away.

Dr. Russell (Quebec) said, in the Province of Quebec the profession were exceedingly happy and contented with the state of things, as they existed; so much so indeed that they felt afraid to go before the legislature and ask for amendments.

Dr. Tupper, C.B. (Halifax, N. S.,) President of the Association,

desired to ask Dr. Russell from whom the profession in the Province of Quebec derived the condition of things, which made them such a happy family.

Dr. Russell—From the legislature.

Dr. Tupper—Ah! and afraid to go before them again—singular.

Dr. Storer had listened with pleasure to the remarks, which were of great importance to all in the States. Many strange things were done there—there was free thinking in medicine and theology. He came personally, and as a delegate from the American Medical Association, to learn how the Canadians were going to deal with questions which were troubling them, not only theoretically but practically. He had studied the Bill now under discussion, and believed it contained a great principle. There was a right and a wrong to every side. He had heard used in this room the term "sects"—this was the first time he had heard it employed in this connection, and it caused him some surprise. He looked upon what we termed "sects" as guerillas, entirely unworthy the position of practitioners of medicine. In the Massachusetts Medical Society there were some 60 homœopaths in full and regular standing. Almost every one of them came in dishonourably—not so much to themselves as to those who admitted them. They almost all of them held diplomas of Harvard, and all possessing that diploma upon presenting, it are entitled to admission to the State Medical Society, while others had to undergo examination. At the last meeting of the American Medical Association, he brought up this subject, and it was decided that unless the Massachusetts Medical Society corrected it by expelling all its irregular members, in future it would not be allowed representation at its meetings. He looked upon this association with homœopaths as a degrading one. He thought the Colleges of the country were beginning to understand that the great power lies with the profession at large. At the Washington meeting of the American Medical Association, the profession through a resolution of his friend and fellow delegate to this meeting, Dr. Sullivan, in no uncertain language expressed its determination to control the Colleges. He then alluded to the formation of the American Journal Association, and that in convention it had been decided not simply to glean from other journals, but the advisability of expressing the particular views of its editors. He concluded by expressing his belief that the Canadian Medical Association was alive to the wants of the profession, and from the discussion which had already taken place, he felt sure that some decided action would be taken at this meeting, which would assert principles they in the States could copy and adopt.

Dr. J. D. Sullivan, of Malden, Mass., said his friend, Doctor Storer

had so ably expressed their common views, and left unsaid so little that was really appropriate to the occasion, that he felt hardly justified in consuming the valuable time of the association by any extended remarks.

There was, however, one subject, to which, inasmuch as allusion had been made to it in the course of the discussion which had taken place he would briefly refer.

It had ever been his opinion that of the enemies to which the medical profession were exposed, the most dangerous as well as the most despicable were the *educated quacks*. Knowledge was power; the greater the knowledge, therefore, the greater the capacity for evil. From the ignorant and shallow pretender, physicians have little or nothing to fear. Amongst the twelve there was a Judas, and sometimes there have been found with us traitors who do a great deal of harm, harm, not so much to ourselves, as to medicine, rational, scientific medicine,—one of the noblest institutions of civilization, almost divine in its beneficent ministrations.

The educated quack should be an anomaly. That he is not, furnishes a mortifying commentary on the obliquity of human nature. It was consolatory to remember that charlatans were not peculiar to our profession. There was no avocation in life which promised pecuniary or other rewards, which was not infested with harpies.

Outside of our own ranks the opinion prevails that the hostility of medical men to this class arises from selfish and unworthy motives. This was an unjust and slanderous aspersion, from which, in the presence of this assembly, it was unnecessary to attempt a vindication.

Certainly no physician, who was not at heart false to his high calling, could witness that calling dishonored and disgraced without experiencing indignant regret and a sense of personal humiliation. As a pure-minded woman would shrink with instinctive loathing from contact with a harlot, ashamed of her own sex, so a high-souled, honorable physician would feel himself degraded, whenever the science, which he loves and worthily represents was prostituted to ignoble uses.

He regarded it as an objectionable feature of the Ontario Bill that it provided for the indefinite perpetuation of the species of empirism to which he had just referred. That the profession of the Province should acquiesce in an alliance derogatory to Medical Science and utterly hostile to their own interests can but appear surprising to a stranger. Nor can such acquiescence prove other than a well-merited reproach, the sooner removed the better. Those who inaugurated this unwise policy would sooner or later find cause to regret it. They were warming in their bosoms a serpent which was sure to sting them. Even Massachusetts, which had reason to be anything but proud of her antecedents, so far as

irregular practitioners were concerned, these persons, whether within or without the pale of the Massachusetts Medical Society, were invariably regarded as irregular, and as such treated by all save certain hospital physicians and surgeons. Of these there were a few who consulted with the irregulars, apparently from motives of self-interest. He was a Yankee himself, and as one regreted that when the "Almighty dollar" was in question there was hardly anything which the typical Yankee would not reconcile to his honor and his conscience.

The Act which was now under consideration was admirably calculated as it seemed to him, to meet the present wants and exigences of the medical profession of the United British Provinces. Inasmuch as your laws recognise as regular members of the profession all duly licensed practitioners he could not regard the simple recognition in the provisions of the contemplated Act, of the existing legal rights of such persons as, in any just sense, a compromise. It was clear that the Act, should it become law, would make the acquisition of a thorough preliminary and profession training obligatory upon all who should thereafter engage in the practice of medicine, and the people of Canada would be delivered through its instrumentallity from the intolerable nuisance of incompetent medical men. Thus one class of empirics would be sweept out of existence. It would be strange indeed, if, under the wise and salutary provisions of this Act, means be not found by which in time, the other and more dangerous class would also be exterminated.

As for us of the United States, it was vain to hope that the aegis of the law might be extended either for the protection of medical science or the community. The inalienable right of every man to poison every other man precludes the possibility of legalizing medicine thorughout our country in any such way as he trusted might be done here. All the profession in the States could expect, was that by its united, but otherwise unaided efforts, it might elevate itself and educate the community to a rational appreciation of the great and essential difference between a thoroughly trained and *conscientious* physician and a *quack*, even although the latter be not devoid of ability or culture. It was painful to confess, but candor compelled him to do so, that hitherto the medical schools had proved the chief obstacle to the advancement of medical science throughout the great American republic.

The jealousies which had so long existed between rival schools had prevented them from acting in harmony for this end; and had tended to degrade the standard of medical education, and hence to lower the dignity of the profession. Time was, when the title of Doctor, was accepted, even

in his own country, as evidence of at least a certain amount of intelligence and culture. But now it was quite the reverse. To many minds it afforded presumptive evidence that the holder was a sort of vampire that feeds and fattens on the miseries of his fellow-men. Still there were many who labored faithfully and well to bring about a better state of things. They needed encouragement, their hearts and hands would be strengthened when they learned what was being done and attempted in the great and rising Dominion of Canada. He concluded by expressing his heartfelt wishes for the success of the present effort of the Canadian Medical Association including the hope that the course might, so far as practicable, be imitated in his own land.

Dr. Tupper thanked Drs. Storer and Sullivan for their remarks.

Dr. R. P. Howard replied, reviewing all the arguments of previous speakers, and concluded by saying that if this Bill should be carried all would have to enter the profession through the same portal. If afterwards any should accept some of the numerous ishims extant, upon their own head be the responsibility.

On motion the Bill was received.

The Secretary read a letter from Dr. Harding of St. John, New Brunswick, expressing deep regret that circumstances prevented his being present.

It was then moved and seconded that the report on the Medical Bill be received, which was carried unanimously. It being one o'clock, the Association adjourned till two o'clock.

AFTERNOON SESSION.

The chair was taken at 2 p.m. by the President. While waiting for a number of members who were absent Dr. Van Cortland, of Ottawa, adressed the Association upon Entozoa. He pointed out the difference between cystic and cystoid Entozoa, and the somewhat singular and unaccountable fact that one class of animals by a process of alternation of generation, changes into the other. Facts were advanced by Dr. Van Cortland to show that if cystoid worms were transferred from herbivorous animals to the abdominal cavity of carniverous animals, the most perfect tape worm would result. A variety of specimens were exhibited and examined with great interest by all present. A hearty vote of thanks was unanimously passed by the Association to Dr. VanCortland for his very interesting communication.

The Association was about to proceed to discuss the Bill, clause by clause, when Dr. McGill, Oshawa, said, while he was willing to consent to discussion taking place upon the various clauses of the Bill, he was

not willing that the Bill as amended should be considered as the final action of the Association. The time allowed for the consideration of the Bill since it was presented to the Association was really so very short that it was impossible to appreciate or understand it thoroughly. It was a pity that the suggestion of the *Canada Medical Journal* had not been adopted, and a printed copy sent to every member of the Association before we met here. He believed that it would be well to ascertain the views of this meeting upon the important features of the Bill and then send it back to the Committee to report at our next meeting.

Dr. Howard,(Montreal) explained that it was impossible to have carried out the suggestion of the *Canada Medical Journal*, as it was not till 3 o'clock on the morning of the previous day that the Bill had been in a condition to be sent to the printer.

Dr. J. R. Dickson, (Kingston), thought, while the views of those present at this meeting should be obtained, that the Bill with the amendments which might be here suggested, should within a reasonable time, say four or five months from this date, be printed and sent to every registered practitioner throughout the Dominion.

Several other members having expressed similar views, it was moved by Dr. Worthington, (Sherbrooke,) seconded by Dr. W. W. Ogden, (Toronto.) That the further discussion of the clauses of the Bill be not now proceeded with, but that its consideration be postponed for twelve months. That the Bill be referred to a new Committee for re-consideration, and that the Secretary be instructed to distribute printed copies in English and French of the Bill as amended to every member of the medical profession of the Dominion, for definite action at the next meeting of the Association.

This resolution gave rise to a good deal of desultary discussion, and while some members favored its adoption, the majority were willing to compromise by putting off final action till the next meeting, but that in the meantime they should discuss as may of the important clauses of the Bill as possible, otherwise, next year they would be precisely where they were to-day. The discussion would enable the Committee to whom the Bill would be entrusted to have some idea of the wishes of the profession expressed through the members of the Association present. In this way considerable progress would be made. Dr. Ogden's motion was finally withdrawn, it being understood that no attempt at legislation upon the basis of the proposed Bill would take place before the Association met next year, and that it should be referred to a new Committee to embody the views of the Association as they might be expressed, a copy of the amended Bill to be sent, within a reasonable time, to every registered practitioner in Canada.

The Bill was then taken up clause by clause. On motion the Preamble was carried, as was also clause I. On clause No. II. being read, it was moved by Dr. Botsford, (St. John, New Brunswick), seconded by Dr. R. H. Russell, (Quebec), that the following be substituted: "That the medical profession of the Dominion of Canada is hereby incorporated under the name and style of the College of Physicians and Surgeons of the Dominion of Canada, and shall have a corporate seal, and every regular member of the profession, and every person who may be registered under the provisions of this Act, shall be a member of the said college." Upon a vote being taken the motion was declared lost, and clause II., as printed, was passed. Clause III. was passed without a division.

Upon clause IV. being put to the meeting, it was moved by Dr. Oldright, (Toronto,) seconded by Dr. Trenholme, (Montreal,) that the University of Toronto and the Toronto School of Medicine shall each have a representative in the General Medical Council.

Several members objected declaring that to give the University of Toronto, and the Toronto School of Medicine each a representative would be decidedly unfair, as the latter was affiliated to the former. Upon being put to the vote the motion was lost.

Dr. Trenholme, (Montreal,) then moved, seconded by Dr. Roy (Quebec.) That the Council shall consist of twenty-four members, elected from twenty-four electoral districts, formed so as to embrace equally members of the regular profession and registered practitioners, and that the representatives shall be elected as hereinafter provided.

Dr. Trenholme, in supporting his resolution, said that he thought in the matter of the election of the Council, the question of Schools or Universities should not for a moment be considered. No University should be afraid to trust her interests to the care of her graduates. He should vote for all members of the Council being selected from the general profession. He was also in favor of the various Provinces being represented in the Council according to medical population.

Dr. Trenholme's motion was lost on a division.

It was then moved by Dr. J. R. Dickson, (Kingston,) seconded by Dr. Dewar, (Port Hope,) That no University or College that does not actually exercise medical functions by a staff of teachers or a board of examiners and regularly conferring medical degrees shall have power to appoint a representative to the Medical Council.

Upon this motion a somewhat lengthy discussion ensued.

Dr. Dickson, (Kingston,) said he was opposed to any University that was not actually engaged in teaching being allowed representation

Until they were so employed by what right, he would like to know, could they claim representation. It was a matter purely medical, and one with which those outside the profession had nothing whatever to do. It might be convenient as a method of equalizing representation between certain Provinces, but it certainly was unfair.

Dr. McGill (Oshawa,) said he did not yet see his way clear as to how he should record his vote. He was desirous of acting so as to elevate the preliminary standard of education, and if by giving Universities not directly connected with medical teaching a representation in the General Medical Council they could succeed in securing their influence to raise the preliminary curriculum, as upon reflection he thought they would, he would feel himself compelled to vote against the motion and in favor of the clause as it stands. This principle of non-medical universities being allowed representation was a feature in the Ontario Medical Bill, and had worked well.

A member asked what qualifications the members of non-medical universities could possibly have to select a medical representative. Would a board of lawyers select a representative from an Art Faculty. If this would be ridiculous, was it not equally so for art faculties to elect a medical representative.

Dr. Howard, (Montreal,) chairman of the Bill Committee, desired to offer a few remarks previous to the vote being taken. As he had previously spoken upon the principle of dividing the representation in the Council equally between the teaching bodies and the general profession he would not allude to that point again. In adjusting the representation of the several Provinces, the Committee felt that by giving an equal number of members to the two large Provinces, eight respectively, and the Maritime Provinces, respectively half that number, a fair distribution was arrived at, and one best adopted to give each Province its due influence in the Council. The proposed General Council was not to be a political organization, requiring the representation to be accurately regulated by population, as had been proposed by one member of this Association. The medical profession in Canada could not differ seriously respecting the teaching and examining of medical students, and there were no truly important questions to engage the medical Council that could be held to be of a sectional nature, that is, affecting the interests of one Province rather than of the others. But there was a principle in the motion under discussion of great importance to the welfare of the profession as a whole. In the formation of a Medical Council for the Dominion, the Committee held that the various interests ought to be represented, and in coming to this decision he thought they had done well. It would be the duty of the Council to determine what the qualifi-

cations of the medical student in general education should be as well as to draw up a curriculum of professional study. The general education of the medical student concerned the council as much as the professional education, and it was only reasonable and fitting that the interests of the Universities, whose special province it was to superintend the former, should be represented in the Council as well as those of the medical schools which were most conversant with the latter. The Ontario Act itself recognised this principle and gives every University and College in the Province a representative in the Council. It would be an evil day for the medical profession when its members shall venture to say that the Universities have nothing to with the profession; that their interests were antagonistic to ours. Our profession was interested in the maintenance of these institutions, struggling as most of them were for subsistence in our new country, and aiming as they did to elevate the intellectual and moral status of the people generally. It had been asked, would a board of lawyers or of clergymen, select a representative from a Faculty of Arts? This was a misapprehension of the meaning of the clause. The Bill provides that the representatives of the Universities must be registered medical men; moreover as several of those bodies are without medical schools, they must select representatives from the general profession and thereby give that interest a numerical preponderance in the Council. Let it not go abroad that the Medical Profession of Canada in the formation of a General Medical Council refused representation to the Universities, which are certainly the bodies most intimately interested in higher education.

Amid cries of "question, question," the President put Dr. Dickson's motion, which he declared carried. The yeas and nays having been called for, they stood as follows:

For Dr. Dickson's Motion.—Drs. Dewar, J. P. Russell, R. H. Russell, Dickson, Canniff, Phillips, Steeves, McCargow, Bethune, Oldright, Botsford, Trenholme, Ogden, J. B. Blanchet, H. Blanchet, Worthington, Roy, Oliver, Fee, Johnson, Strange, 21.

Against Dr. Dickson's Motion.—Drs. W. E. Scott, G. E. Fenwick, J. M. Drake, Duncan McCallum, Robert Craik, Joshua Chamberlain, R. P. Howard, Francis W. Campbell, McGill, Henry, Parker, J. B. Gibson, Gilbert, Sheriff, C. B. Hall, A. M. Rosebrugh, Meigs, J. A. Grant, Edmondson, Hingston, 20.

Dr. David, General Secretary, said that in the hurry, he had neglected to record his own vote among the nays. Could it be done now?

The President ruled that the result of the vote having been announced from the chair, it was impossible to reconsider it.

The Section of clause IV, styling the College of Sackville, New Brunswick, being eroneous, it was changed to read "The University of New Brunswick."

It was then moved by Dr. J. B. Blanchet, (Quebec) seconded by Dr. R. H. Russell, (Quebec), that the Section of clause IV alluding to details of representation be amended to read as follows: "The General Council shall be composed of 30 members, 10 representing Ontario, 10 Quebec, and 5 New Brunswick and Nova Scotia, respectively, in accordance with the following plan:—Each School of Medicine or University having a staff of teachers or a board of examiners, regularly conferring medical degrees, shall have the privilege of sending one representative to the General Council, and the remainder for each section shall be elected by the members of the College of Physicians and Surgeons of the Dominion of Canada, not connected with the teaching or examining bodies."

On a vote this was carried. This rendered clauses V and VI unnecessary, and they were accordingly erased.

It being six o'clock, the Association adjourned for one hour.

EVENING SESSION.

The President took the chair at 7 o'clock.

Dr. Chamberlain, (Frelighsburgh) moved, seconded by Dr. Botsford, (St. John, N.B.) that Dr. Horatio R. Storer, of Boston, and Dr. Sullivan, of Malden, be elected honorary members, which was carried unanimously.

Dr. Sullivan said he regretted that Dr. Storer was not present, as his ever ready and eloquent lips would give utterance to words appropriate to express their very grateful appreciation of the distinguished honor the Association had done them in electing them honorary members. For himself he accepted the enviable distinction merely as a mark of courtesy on the part of the Canadian Medical Association towards one who was in no sense a representative member of the profession in the United States, save in his uncompromising allegiance to scientific medicine.

Dr. Storer having entered the room, Dr. Tupper informed him of his election to an honorary membership.

Dr. Storer, in rising to acknowledge the compliment conferred upon him by the Association in his election to Honorary Membership, stated that he felt that it was intended rather as a mark of respect for the Association and nation that he represented than for himself. He could say with truth that no token of appreciation that he had as yet received at the hands of medical men had been so gratifying to him as this.

The gentlemen who surrounded him were, most of them, University men. They had passed the cirricula of the great schools of the mother country, so superior in their scope and their reqirements to any in the United States, and they were the pupils of those whom the whole world delighted to honor. To the American delegate, their present mission was peculiarly an interesting one not to mention its international aspect, for he felt that whatever might be the feelings of Canadians with regard to an eventual closer union with the State, there was to Science neither limit nor dividing line. There had been topics under discussion at the present session that were of absorbing interest to the medical profession throughout the world. To raise the standard of medical education to sift the chaff of quackery, or " sectarianism " as he had now for the first time heard its termed, from the honest, well-ripened professional wheat, and to strengthen the bonds of a more cordial union by giving to every duly qualified and registered graduate the right to practice throughout the confines of a common Dominion, were in reality national ends. There could be no doubt whatever that the action now taken in Canada would have its direct influence in compelling his own countrymen to follow the lead thus given. Provincial students have thronged to the States for the degrees there obtained so much more cheaply, alike as regards the length of time and the quality of instruction. They could do so no longer. The half-fitted graduates of American schools could no longer flock across the lines, an army of hostile invasion, to settle down for Canadian practice. For those schools hereinafter to draw students from Canada or to send their graduates thither, they must accede to the establishment of a common curriculum, which could no longer be cheapened by an ignoble and suicidal rivalry. There could be no doubt that to admit to the proposed Central Medical Council an equal representation of members from the outside profession instead of to wholly compose it from the schools, as had been the plan in Great Britian, would be an element of advantage to all concerned. In the States, the schools were beginning to learn, as had been demonstrated at the late meeting of the American Medical Association at Washington, that there was indeed a power behind the throne, superior to and controlling them, and that in the members of the Fourth Estate the medical periodical press, working together in harmony for common ends, there lay the real mastery and management of that great power. For himself, while as an aluminus of Harvard University he had been pained to hear the diploma of that school commented upon and particularized in open session as having been found sheltering most incompetent persons in Ontario and New Brunswick, and perhaps also the other provinces. He should go back to Massachusetts and to the Association of American Medical Journalists, over whom he had at present the honor to preside, with his hands strengthened for renewed conflict with that

pseudo-conservatism which prefers rust to all honorable advance, and petty gains to the general professional good.

In conclusion, Dr. Storer tendered his thanks with deep feeling to the members of the Association for their singular and uninterrupted courtesies to him, even from the moment of crossing the border. Much of this kindness, he was convinced, was owing to their having worshipped at a common shrine. The retiring President of the Association (Dr. Tupper), no less pre eminent in public than in professional life, his successor also (Dr. Parker), and like others present who occupied seats in Parliament,—indeed, he might truthfully say, almost every gentlemen before him—were "Simpson men," all recognizing the majesty of the master just departed, and very many of them his pupils and personal friends. As with Dr. Dewar of Port Hope, whom Dr. Storer had now met for the first time since they were students together in Edinburgh, so with scores of others, some of them known to him in a former Canadian visit, and some again only by reputation, there existed, he had now been made so pleasantly to feel, a truly brotherly bond, the strength and the meaning, and the delights of which would ever remain to him a freshly recurring joy.

Dr. Canniff, (Toronto), then gave notice of the following motion, with a view to alteration in the bye-laws: "That every ordinary member of this Association pay a subscription of three dollars per annum, whether present at the annual meeting or not, and that the Treasurer shall immediately after each meeting present each absentee with his account." This will be taken up at next meeting.

The Association then proceeded with the discussion of the Bill. As a large majority of the members stated that it was necessary that they should leave for home by the morning train, and as it was impossible to discuss all the clauses of the Bill, it was determined simply to take up the most important, and obtain the opinion of the Association upon them.

Clause VII. was read, when on motion of Dr. Russell, (Quebec), seconded by Dr. Dewar, (Port Hope), all the provisions with reference to Branch Councils were struck out.

This action of the Association necessitated the striking out all clauses or portions of clauses that had reference to Branch Councils.

The next clause taken up was XXII. and it being considered equitable was unanimously endorsed by the Association.

The XXV. clause recommending an Examining Board for Ontario and Quebec, and one for Nova Scotia and New Brunswick, was then taken up, and considerable discussion ensued.

Dr. Dewar, (Port Hope), said he felt sure that the formation of three Examining Boards was totally uncalled for and unnecessary, and would not meet the views of the practitioners in Ontario. He was decidedly of opinion that the carying of this clause, and those dependant upon it, would call up an amount of opposition in Western Canada, that would certainly render defeat of the Bill certain.

Dr. Bethune, (Glanford), would oppose any dividing of the examinations, among Provincial Examining Boards. He considered them as

quite unnecessary, and as defeating the very object he thought we should have in view, in passing such a Bill as had been brought before the Association. Rivalry would surely spring up among the various Examining Boards, as it most certainly had done between Universities. He favoured a Dominion Examining Board, and trusted this great object would not be lost sight of.

Dr. Botsford, (St. John, N. B.), said it was an extremely easy matter for members of this Association to oppose Branch Examining Boards because it would not be a difficult matter for the students of Ontario and Quebec to present themselves before a Central Board meeting either at Toronto, Kingston or Montreal; but with students in the Lower Provinces it would be a very serious thing to compel them to travel from New Brunswick and Nova Scotia. On their behalf therefore he would plead; even as a matter of conciliation toward their brethern in those Provinces he would ask them to allow this clause to remain. In St. John, in view of this Bill there was a good deal of irritation, for many of its features had been brought by him before the Local Society and discussed, and, he would add, condemned. Let not the irritation already existing be increased; let him not have it to say when he returned home that his pleadings on behalf of the Lower Province practitioners had been received with scorn and cold indifference by their fellow subjects in the Western portion of the Dominion.

A member thought we should listen to the appeal of Dr. Botsford, which contained much truth. Many students in Ontario had last year complained at even having had to go to Kingston for their examination.

Dr. CRAIK said Dr. Botsford's views would, in a measure, have weight, did the medical students in Nova Scotia and New Brunswick receive their professional education in those Provinces. Such was, however, not the case, many going to Philadelphia, New York, Boston and Montreal to attend the schools in the cities named. To make a journey to Montreal or Toronto would, under the circumstances, therefore, not be a great hardship.

Dr. R. H. Russell (Quebec) expressed the hope that the Association would give an emphatic expression of opinion upon this question. The profession of the Dominion were, he felt convinced, in favor of the great principle, of one Board of Examiners for the entire Dominion.

On motion of Dr. R. H. Russell (Quebec), seconded by Dr. Oldright, (Toronto), clause XXV, with all otherclauses dependant upon it, were struck out. This affirmation of the principle of a Central Examining Board was received with applause by the Association.

Upon the XXIX clause being read—

Dr. FRANCIS W. CAMPBELL (Montreal) said he must oppose the passing of this clause. When it had been read the previous day by his friend Dr. Howard, he considered it so unjust and even tyrannical in its character, that he made up his mind to oppose its passage. He thought he saw and appreciated the object which the framers of the Bill had in view in introducing this clause, but its wording was of such a character that it gave the Council a power which they might use, without having really any good reason for doing so. He thought that the same object could be

obtained by giving the Council the right to refuse to recognise any school. If such was the case, they would be liable to public professional opinion, and would certainly not exercise such a right, without being able to assign good and sufficient reasons for their action.

Dr. CRAIK (Montreal) saw clearly the difficulty which Dr. Campbell had pointed out, and agreed with him in the remarks which he had made. The impression conveyed by the wording of the clause was, that a power, tyrannical, because no reason need be assigned, was given the Council.

It was then moved by Dr. Francis W. Campbell (Montreal), seconded by Dr. Craik (Montreal), that clause XXIX be struck out, and the following inserted in its place :—

" It shall not necessarily be incumbent upon the Medical Council to recognise any Medical School not in operation at the time of the passing of this Act."

Upon a vote this motion was carried.

The penal clauses of the Bill XLII and XLIII were discussed, and Dr. Oldright explained the difficulties they had in carrying out the penal clauses of the Ontario Act and the causes of this difficulty, when it was agreed that on default of the payment of a fine, that imprisonment for thirty days be recommended.

Clause XLIII was further altered by the substitution for the words, " shall upon summary correction before any justice of the peace for any such offence, pay " of the following, " shall, if unable to establish the fact by legal proof, pay."

It was also agreed that the clauses providing for the publishing of notices of elections in newpapers and periodicals should be amended so as to permit the notices to be given by circular.

Dr. TUPPER (President) announced that the Medical Society of Halifax had, at their last meeting passed a resolution asking the Association to hold its next meeting in Halifax, when it was—

Moved by Dr. Steeves (St. John, N. B.), seconded by Dr. McNeill Parker (Halifax, N. S.) :—

That Halifax be the next place of meeting.

Moved by Dr. Trenholme (Montreal), seconded by Dr. Craik (Montreal :—

That the City of Montreal be the next place of meeting.

Moved by Dr. J. B. Blanchet (Quebec), seconded by Dr. R. H. Russell (Quebec) :—

That Quebec be the next place of meeting.

Which was carried by a small majority.

The Nominating Committee then presented their report, recommending the following list of officers for the next year: as President, the Hon. Dr. D. McNeill Parker, Halifax; General Secretary, Dr. A. H. David, Montreal; Treasurer, Dr. Ed. Robillard, Montreal; Vice-President for Quebec, Dr. Marsden, Quebec; Vice-President for Ontario, Dr. J. A. Grant, Ottawa; Vice-President for New Brunswick, Dr. W. Bayard, St. John, N. B.; Vice-President for Nova Scotia, Dr. Rufus S. Black, Halifax, N. S.; Local Secretary for Quebec, Dr. J. B. Blanchet, Quebec; Local Secretary for Ontario, Dr. Walter Henry, Ottawa; Local Secretary for New Brunswick, Dr. J. T. Steeves, St. John's N. B.; Local

Secretary for Nova Scotia; Dr. A. P. Reid, Halifax, N. S. The election was then proceeded with, and the report of the Nominating Committee adopted, except in the following instances.

On motion of Dr. Sweetland, (Ottawa,) seconded by J. P. Russell, (Toronto,) it was moved that Dr. J. R. Dickson, of Kingston, be elected Vice-President for the Province of Ontario. This was carried on a division of 19 to 14.

A letter having been read from Dr. Marsden, declining the office of Vice-President for the Province of Quebec,

It was moved by Dr. Francis W. Campbell, Montreal, seconded by Dr. Worthington, Sherbrooke, that Dr. Joshua Chamberlain, of Frelighsburgh, be elected to that office, which was carried unanimously.

The various newly-elected officers who were present expressed the high sense of the honor which the Association had done them, and their determination to do all in their power to further the success of the Association.

The Nominating Committee next proposed that the various standing Committees be composed as follows:

Committee on Prize Essays.—Drs. Hingston, Montreal; Larue, Quebec; Brouse, Prescott; Yates, Kingston; Gordon, Halifax.

Committee on Medical Education.—Drs. Howard, Montreal; Rottot, Montreal; Jackson, Quebec; Gilbert, Sherbrooke; McGill, Oshawa; Dickson, Kingston; W. W. Ogden, Toronto; Canniff, Toronto; Botsford, St. John, N. B.; Earle, St. John, N. B.; Tupper, Halifax; A. P. Reid, Halifax.

Committee on Medical Literature.—Drs. Trudel, Montreal; David, Montreal; Larue, Quebec; Tessier, Quebec; Bethune, Glanford; Edmondson, Brockville; McIntosh, Hamilton; Oldright, Toronto; Harding, St. Johns, N. B.; Steevs, St. Johns, N. B.; Wickwire, Halifax; Moran, Halifax.

Committee on Climatology and Epidemic Diseases, appointed for Three Years.—Drs. Smallwood, Montreal; Hingston, Montreal; J. P. Russell, Toronto; Michaud, Varrenes; H. H. Wright, Toronto; Bergin, Cornwall, Dewar, Port Hope; Aitken, Toronto; De Wolff, Halifax; Steverman, Lunenburg, N. S.; Prevost, ——; G. A. Hamilton, St. John, N. B.

Committee on Medical Necrology.—Drs. Francis W. Campbell, Montreal; Joseph Workman, Toronto; Larue, Quebec; De Wolff, Halifax; Harding, St. Johns, N. B.

Committee on Publication.—Drs. David, Robillard, Francis W. Campbell, E. H. Trenholme, Craik, Peltier, all of Montreal.

Committee of Arrangements for next Meeting.—Drs. Landry, Sewell, R. H. Russell, Tessier, Marsden, Bellcau, J. B. Blanchet, H. Blanchet, Roy; all of Quebec.

The Bill was then referred to the following Committee, with instructions to have it amended according to the wishes of the Association, as expressed at this meeting. Copies to be sent to the registered members of the profession throughout the Dominion, and the Bill to be brought before the next meeting of the Association for final adoption.

Committee on Bill.—Dr. Howard, Montreal, Chairman; Drs. Hings

ton, Montreal; Brouse, Prescott; McIntosh, Hamilton; Dewar, Port Hope; H. H. Wright, Toronto; Dickson, Kingston; Rottot, Montreal; Landry, Quebec; R. H. Russell, Quebec; Bayard, St. John, N. B.; Botsford, St. John, N. B.; D. McNeill Parker, Halifax; A. P. Reid, Halifax; C. Tupper, Halifax.

On motion of Dr. Bethune (Glanford) seconded by Dr. R. H. Russell (Quebec) a vote of thanks was unanimously passed to Dr. Howard for the energy and ability with which he had shown as Chairman of the Committee in preparing the Bill.

Dr. Howard briefly returned thanks.

Dr. Canniff (Toronto) here said that on voting "Yea" on Dr. Dickson's amendment with reference to University representation, he had done so under a misaprehension of its bearing.

A vote of thanks to the various railway and steamboat companies for reduction in their rates of fare to members of the Association, was carried unanimously, and ordered to be communicated to the proper quarters.

On motion the President left the chair, and the Hon. Dr. McNeill Parker called to it.

It was then moved by Dr. Craik (Montreal) seconded by Dr. W. W. Ogden, (Toronto) "That this Association tenders its warmest thanks to its retiring President, the Hon. Dr. Tupper, C.B. and desires to express its grateful appreciation of the great service which he has rendered to the Association by the admirable manner in which he has presided over its deliberation."

This motion was carried unanimously.

Amid loud applause the retiring President, Hon Dr. Tupper rose to respond, and said he most sincerely thanked them for their expressions of approbation as to the manner in which he had performed the duties of the very important office conferred upon him during the last three years. During all that time he had many other high offices and functions conferred upon him, political and otherwise, but none did he esteem more or fill with more pleasure than that which was conferred upon him year after year, by the members of the Canadian Medical Association as their President. For every exertion he had made in his position towards forwarding the interests of the Association, he felt amply repaid, as no doubt did every member who had gone to any expense looking to the same end, and he left the Chair certainly highly satisfied with what had been done during his period of office as President. He felt grateful to and was deeply indebted to every member of the Association for the hearty co-operation which he had always received. Though retiring from the Chair he would still find it his greatest pleasure to take an active part in the proceedings of the Association. He begged to thank them for the great honor they had conferred upon him in his repeated election as President, and also for their kind expression of approbation.

A vote of thanks was then passed to all the officers of the Association for the able manner in which they had discharged their respective duties.

The Convention adjourned at half-past twelve on Friday morning, to meet at the usual time, in September next at Quebec.

The Late Sir James Y. Simpson, Professor of Midwifery, University of Edinburgh.

CANADA
MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Introductory Lecture to the Session 1870-71, *delivered on the 4th October*, 1870. By WILLIAM FRASER, M. D., Professor of the Institutes of Medicine, McGill University.

GENTLEMEN.— At the commencement of another session, I am happy to meet again those of you who have already attended here, and to you who do so for the first time, I, in the name of my colleagues, offer a hearty welcome. In after days of ceaseless occupation, amidst the cares and struggles of the world, the remembrance of the time you may pass here, will, I trust, never fail to call up pleasant associations.

On the present occasion it has become my duty to give the time honoured introductory lecture, a task which, till very recently, I had entirely overlooked. After some deliberation as to the most suitable subject on which to address those of you who are about to commence the study, and which may not be without interest to students of whatever standing, I have determined to make a few remarks: 1st. on the past history of medicine. 2nd. on its present condition. 3rd. on the mode in which it should be studied.

Past History.—To Ancient Greece, we are indebted for the earliest records of medicine. By its fathers or founders it was fancied that all matter consisted of the four elements, *fire*, *water*, *earth* and *air*. Some believed that in water the secret of life was to be found, others that it was in the air, others that it was in the earth, while Pythagoras and his followers thought that it was to be found in heat. Strange to say this old Pythagorœan idea, which originated twenty-four centuries ago, is now a popular tenet with some of the leading men of the present day. In those early ages when human dissection was forbidden by religion, by custom and by prejudice, and medical practitioners were continually seeking to solve the problem of life and the processes of health and disease by dissecting the lower animals, we can easily understand how uncertain the practice of our art must have been.

Last of the fathers of medicine came Galen, who lived seventeen centuries ago; a man of brilliant genius, who eagerly studied anatomy and the functions discharged by the various organs of the body. His

labours gave medicine a new and powerful impetus. His knowledge of the minute structure of parts was so much more profound than that of his predecessors, and his notions regarding their functions so ingenious, that for centuries after his death his followers simply accepted and believed all that he had said as though he had been an oracle.

But the progress which anatomy and physiology had thus made under Galen and his followers was doomed to be arrested. The struggling light of the lamp of science grew dim by reason of the thickening darkness of barbarism which set in, and more than a thousand years came and went ere further progress was made in the investigation of living things. Down through the dark ages as monks kept alive, but scarcely extended, the classical and mathematical lore of the ancients, so the practitioners of medicine, who were often, indeed, monks too, kept alive but did not extend the science of medicine.

The 15th century ushered in a new era. Learning revived, and with it medicine. But it was not till the discovery of the circulation by Harvey, 200 years ago, and the application of the Beconian inductive method in the investigation of vital phenomena by the great German Physiologist and Physician, Haller, that modern medicine began to assume its present shape. This brings me to the second head of my subject.

THE PRESENT CONDITION OF MEDICINE.

The chief object of medicine as a science and an art being the *prevention*, *cure* and *mitigation* of disease, I will endeavour briefly to explain how it accomplishes these desirable results at the present time.

As regards the first of these objects, the prevention of disease, modern medical researches into the causes of disease have triumphantly shown that a large number are preventable by proper sanitary regulations, and the mortality of communities where such regulations are enforced is, as a consequence, greatly diminished. By way of illustrating the importance of preventive medicine, I will direct your attention to the following facts in connection with it. It is beyond question that the food we consume, the air we breathe, the soil on which we live and the water we drink have a marked influence on health. For example, sea scurvy is due to a diet deficient in fresh vegetables; chronic lead poisoning to the entrance of that metal into the system, either through the stomach in soft drinking water that has passed through leaden pipes or been kept in leaden cisterns, or through the skin or lungs in the case of painters or others whose occupations expose them to the noxious influence of the metal. Localized outbreaks of typhoid fever, diarrhœa and cholera, to the introduction of poison by water, although atmospheric conditions may also play an important part in their development.

Malarious exhalations from undrained marshes give rise to ague and some allied forms of disease. The chief cause of phthisis is hereditary constitution, but it has been shown that it may be also developed in individuals who have no such taint, by living on poor food, in damp, low localities, and by overcrowding. On the other hand recent researches appear to show that persons living generously, in dry and elevated situations, are comparatively exempt from the disease.

Isolating patients labouring under contagious diseases has long been recognized as a means of preventing the propagation of such maladies. The late Sir James Simpson believed that by such means all contagious diseases may be utterly stamped out. Another world-renowned means of preventing and modifying disease is the grand discovery of *vaccination by Jenner*, and I believe that carbolic acid, as now employed in surgical practice by Mr. Lister, will, to a great extent, if not completely, prevent pyæmia in surgical cases. During my recent visit to Europe, I had the pleasure of accompanying that accomplished surgeon in his visit round his wards in the Glasgow Royal Infirmary. On asking whether he found pyæmic disease diminished since the introduction of his treatment by carbolic acid, he replied that he might say the disease was, in his wards, unknown.

Such, gentlemen, are a few examples, illustrating the present state of medicine as a preventive science. The field is far from being as yet completely explored; future researches, which I trust some of you may undertake, will, I am satisfied, be attended with additional success.

As regards the present condition of rational medicine as a *curative science* and *art*, I may state that some of its *branches* are considered to have all the certainty of sciences, and are hence termed scientific and collectively the science of medicine. The others are practical, and collectively are termed the art of medicine and surgery. The former class comprises botany, anatomy, chemistry and physiology; the latter all the other branches included in the curriculum of medical studies.

The scientific branches explain the gross and minute structural and chemical composition of the human body and the functions of its various organs in a state of health. Hence they constitute the basis on which all surgical procedure and pathological doctrines are founded. For example, the rules which guide the surgeon in all operations are based on human anatomy and physiology, and so is the knowledge required by the physician in exploring the various regions and organs. To comprehend the abnormities of function and structure, which are the pathological causes of the various derangements and diseases, you must understand healthy structure and function. For instance, to enable you to say whether a

muscle is in a state of degeneration or not requires you to know the ultimate structure of healthy muscle. To enable you to judge as to the abnormities of the pulse and respiration requires you to be familiar with their frequency and other qualities at the various periods of life and in the different positions of the body during health. To recognize abnormities of the urinary secretion ,requires a knowledge of its healthy qualities, and so on with the other functions. You will thus perceive how necessary it is for the surgeon and physician to understand anatomy, chemistry and physiology, in order to practice their respective branches in a rational manner. As I have already said they are the basis on which medicine at present rests so far as it is scientific.

Another feature which characterises the present condition of medicine and gives us great advantage over our predecessors is our more precise modern methods of exploring disease, by the stethoscope, the microscope, the ophthalmoscope, the sphygmograph, the thermometer and the speculum. These instruments have contributed much to our accuracy of diagnosis, and thus advanced our exact knowledge of disease.

The medicine of the present day is also characterized by more attention than formerly to the natural history of disease, to its causes and pathology, by less heroic treatment, by more attention to good nursing and judicious feeding. Its course is closely watched, complications corrected and appropriate medicines administered when these are known to be useful.

In former times the cure of disease was attempted by specific remedies without any reference to the constitution of the patient, to the cause, nature or stage of the disease. For example, inflammation was universally treated by bleeding and other lowering remedies, and the same agents were frequently employed in the treatment of fevers. By physicians of the present day bleeding is seldom employed, and the reason is this: Formerly, theory was the ground work of therapeutics, now facts are the basis of treatment. Formerly diseases were treated by their name; if inflammation, by bleeding; now they are treated by their known conditions. Formerly local changes were the main guides, now the general condition of the patient is the chief consideration. What we now believe and act upon is not theory, but a better knowledge of the laws and relations of morbid change. We see that the general condition of the patient is of greater importance than his local malady, and that no treatment can be of any real service which sacrifices the greater to the lesser. In all treatment therefore the general condition is by physicians of the present day first considered. If it be one of weakness it matters not that the brain, the heart or the lungs may be in the state

of so called inflammation, the weakness is the only thing that demands immediate attention, and to neglect its treatment is to run the risk of sacrificing the patient. This is the reason why nutrituous food, wine and tonics are now advantageously employed in inflammatory and febrile diseases instead of the antiphlogistic treatment. Most of those diseases curable by any means are curable by the unaided powers of nature; and the chief art of the physician as of the surgeon consists in regulating and directing the *vis medicatrix naturæ*, or those natural forces which will cure a fever or an inflamed lung as surely and as completely as they will heal a wound or fractured bone.

Owing to the comparatively small amount of medicine now administered, physicians of the present day have been charged with a want of faith in their power to cure disease. But such is not the case. On the contrary, I believe more real good and less harm is done by medicines now than formerly. Remedies injurious to the constitution and dangerous to life are less frequently administered, and when they are deemed necessary they are discontinued as early as possible and milder means substituted.

Time will not permit me to review the present state of surgery and obstetrics. Suffice it to say that in both these departments advances of the most striking and satisfactory kind have been made within the past few years, which will be fully explained in the lectures.

Palliative Medicine.—It unfortunately happens that many diseases are incurable by any means yet devised. In such cases all that the medical attendant can do is to relieve the most urgent symptoms and sustain the patient's strength. This is done by attention to his general health and by the administration of remedies that alleviate pain and promote repose. Here, too, Modern medicine has within the last quarter of a century discovered two of the most efficient means. I refer to the hypodermic injection of anodynes and to *anæsthetics*; the former the most prompt means we now possess for the relief of urgent local pain, and the latter, besides rendering a patient about to undergo a severe surgical operation oblivious to suffering, is often successfully employed by the physician for the relief of the most acute pain. By these means so recently discovered more can be done than formerly for the prevention and relief of suffering. And so well are the functions of the human body and the influence of medicines, food, clothing and climate, understood at the present time, that much more can be done than formerly by judicious medical treatment and hygienic measures, for persons convalescing from ordinary diseases and for promoting the comfort and prolonging the lives of invalids affected by chronic and incurable maladies.

As regards the study of medicine, I will lay down the following maxims for your guidance.

1. Do not attend too many classes.

2. Be methodical in the planning of your time, and punctual in carrying out whatever plans you have formed. By this means you will soon become trained to work and able to accomplish much more in the same time than the man who works by fits and starts.

3. Endeavour to master thoroughly the subjects treated of, in the classes you attend. Take notes and follow the lectures by reading in the best text books. Nothing is so uninteresting as half learning a subject. You do not become interested till you begin to comprehend it.

The first classes you should attend are botany, anatomy, chemistry, physiology and materia medica. They, as already explained, form the basis of all medical knowledge, and should therefore be at once *done*. *Anatomy* is the most important; it is an immense subject, and to the beginner proverbially dry, but becomes interesting as he advances and examines the parts for himself. Hence, so soon as you have acquired the necessary elementary knowledge, engage in dissection, of which you cannot in my opinion do too much.

I would strongly urge on you who are just commencing the study, the importance of a thorough knowledge of the fundamental branches referred to, and exhort you who are more advanced with your studies, above all, to cultivate clinical medicine, surgery and obstetrics in the wards of the Hospitals. The principles and practice of these branches will be fully explained in the respective classes, but it is in the Hospitals you will see them carried into practice. It will avail you but little to know what the various physical signs may indicate, unless you can recognize them when you hear them. This you will learn to do in the Hospital, where you will also see under treatment a variety of medical and surgical diseases.

Finally, gentlemen, let me offer you a word of council as regards your general conduct. Formerly the medical student was looked upon as a rowdying, rollicking, disreputable specimen of the genus *homo*, who was hardly responsible for his actions. In this respect things are altogether altered, and he is now held to be as responsible for his actions as any other sane member of society. Therefore, endeavour by gentlemanly conduct and hard work to maintain his reputation as well as that of this University, and thus become worthy members of our ancient and honorable profession.

HOSPITAL REPORTS.

MONTREAL GENERAL HOSPITAL.

CASES IN MEDICINE AND SURGERY UNDER THE CARE OF DR. D. C. MACCALLUM.

Case 11.—*Acute Prostatitis with Perineal Abscess and irritation of the Bladder.* Reported by Mr. JOHN H. MATHIESON.

Henry V., *æt* 31, was admitted into the Montreal General Hospital, August 18th, 1870, suffering severely from retention of urine.

He had been a soldier for six years, and got his discharge three years ago. In 1865, he got gonorrhœa, which he neglected, it continued for eighteen months, and was followed by stricture; shortly after this he suffered from retention of urine; catheterism was attempted but failed, and he got relief from hip baths and some kind of suppositories; he has not had any difficulty in micturition since then until the present, though he has not been able to pass his urine in a full stream; he has been a hard drinker.

On the 13th inst., immediately after quitting a hard day's work, he sat down for some time on a wet log; that night he was seized with very severe pain in the perineum, and in the morning he had some difficulty in voiding his urine, and noticed slight swelling in the perineum; nothing was done for it, and it has increased in size and become very tender the difficulty in micturition has also increased, and for the last thirty hours he has not passed any urine.

He is now in great distress, the bladder is very much distended; there is a swelling in the perineum to the median line, about the size of half a lemon; it also extends forwards along the urethra, forming in the posterior part of the scrotum a tumor as large as one of the testicles; there is a large amount of effusion into the whole of the cellular tissue in that region, and the septum scroti can be distinctly felt as a prominent ridge. On introducing the finger into the rectum, a large, firm, exquisitely tender tumor is felt pressing back upon it, and compressing it firmly into the hollow of the sacrum. The finger cannot be passed beyond it without considerable difficulty, and causing great pain to the patient; pulse 119; surface hot; tongue dry. Dr. MacCallum ordered a warm hip-bath to be followed by poultices of linseed meal to the perineum, and if this did not afford relief, to administer chloroform and pass a catheter.

August 19th.—While in the bath yesterday he passed some urine, and it has been passing involuntarily since then; the swelling in the perineum and the prostate remain unchanged; pulse 102; bowels have not been opened for four days; ordered ℞. antimon. tart. gr. $\frac{1}{8}$, tinct. aconit

m ij. aquæ. ℥ ss. to be taken thrice daily; repeat the hip bath, continue poultices and give a simple injection.

August 20th.—Pulse 100; the tartar emetic has produced some nausea; there is less pain, and he passes his urine more freely; the perineal swelling and the prostate are no smaller but are less tender; examined the urine and found a large deposit (about 10 pr. c.) of very tenacious mucus; sp. grs, 1020; reaction slightly alkaline; microscopically, a few pus corpuscles, and a great number of very large crystals of the triple phosphates; continue the same treatment.

August 21st.—Pulse 98; he can retain his urine now; the pain in perineum is less, and there is distinct fluctuation in the tumour. Dr. MacCallum opened it, and about ʒ ss. of pus escaped; the prostate is as large, but rather softer and less tender than before.

Augnst 22nd.—He has been much more comfortable since the tumor was opened; it discharges a little pus, is diminishing in size and becoming softer.

Augnst 23rd.—Pulse 96; was much better this morning, and passed his urine freely; about 3 p.m his bladder became distended; he had a great desire to micturate but could not, and was in great distress; he got a warm hip bath, and while in it a quantity of pus escaped, and after that he micturated freely.

August 24th.—He is much better; the perineal tumor is smaller, and has ceased to discharge pus; the prostate also is smaller, the finger now easily passes it in the rectum, the middle and left lobes are the largest; he defæcates easily; the mucus in the urine is increasing.

August 26th.—He continues to improve, the swelling in the perineum is very much reduced, but there is rather more infiltration into the scrotum; the prostate is smaller, softer, and less tender, the left lobe is reduced, and the middle one only is enlarged; ordered to stop the tartar emetic and aconite, and to take the following every fourth hour, ℞. potass. bromid. gr. v. tinct. hyoscyam m xv. aquæ ʒ ss. solve.

August 28th.—He has great difficulty in passing his urine; it contains a greater amount of mucus; ordered to stop the last mixture and substitute the following ℞. infus. uva. ursi. ʒ j. tinct. hyoscyam m x. soda bicarbon grs. x. solve, to be taken every fourth hour; the crystals of triple phosphate are smaller and fewer.

August 29th—Much better, but there is still a large quantity of mucus in the urine.

August 30th.—He had great difficulty in passing his urine last night, requiring to strain a great deal, and passing a large quantity of mucus; had a hip bath this a.m. and is now much relieved; the swelling in the

perineum is a little greater, and there is more effusion in the scrotum. Examined per rectum and found a prominent ridge in the median line, no tenderness, and no obstruction to defæcation. He thinks that while straining last evening to pass his urine some pus escaped per rectum. I cannot detect an opening.

August 31st—Still some difficulty in micturition; ordered acid. gallic. grs. v. every fourth hour.

Sept. 2nd.—The irritation in the neck of the bladder still continues and the quantity of mucus is about the same. There is a burning pain after micturition, ordered pulv. opii. gr. j. acid. gallic gr. v. every fourth hour.

Sept. 4th.—There was a large quantity of pus discharged with the urine to day, forming about one half of what was voided; the prostate is now very nearly its normal size.

Sept. 5th.—The urine to day contains only about 4 per cent of pus and mucus; he is quite easy and micturates freely and without pain; the triple phosphates have disappeared.

Sept. 12th.—He has improved in health rapidly since the discharge of pus; the urine is now clear, the swelling nearly gone and the prostate normal; there is no pain or difficulty in micturition.

Case 12.—*Prostatic Hæmorrhage.* Reported by Mr. J. H. MATHIESON.

James C. *æt.* 36, a labourer, was admitted into the Montreal General Hospital, September 2nd, 1870. He is a strong, healthy fellow, has been drinking hard of late, and his work (handling bales) is often very heavy. About three weeks ago he noticed a few drops of blood pass *before* the urine, when he went to micturate; this was repeated frequently, though not every time he micturated, also at times without micturition it passed involuntarily; the amount varying from a few drops to several drachms, He never noticed it follow immediately the passing of his urine, or accompany the last drops; the stream was a little smaller than usual, and he required to force considerably, but there was no burning, pain, or other inconvenience; he has not felt the least indisposition or constitutional disturbance; there is no difficulty in defæcation or pain or tenderness in any part; he never had syphilis—had gonorrhœa six years ago, but has no stricture. He did not notice any change in the amount of the urine, but there was a frequent desire to pass it; examined per rectum and found slight enlargement of the prostate, but no tenderness. On sunday the 28th ult. he with three others went down the river in a boat, and slept at night in a hut on shore; about midnight he awoke,

and foun his pants saturated with blood, also the sail beneath him. He is positive there was not less than a pint; he had no premonition whatever of its occurrence. Since then he has had less difficulty in passing his urine, and there has been less blood, though it still passes by drops; bowels are regular; tongue a little coated. Dr. MacCallum ordered five grains of gallic acid, to be given every fourth hour.

September 3rd.—No change; examined his urine and found a few flakes of mucus; color normal; sp. gr. 1018; reaction neutral, microscopically a large number of blood corpuscles; ordered acid, gallic, gr. xx every fourth hour.

September 6th.—Passes a drop or two of blood occasionally, but not nearly so much as before.

September 12th.—The amount of blood gradually diminished, there has not been any for the past two days. Discharged.

Case 13.—*Lupus Exedens of the Nose.* Reported by Mr. T. D. Reed.

Emily G., aged 13, a pale and somewhat scrofulous looking girl, was admitted into the Montreal General Hospital, July 25th, 1870, with an affection of the nose, which was pronounced to be true Lupus. She presents (July 25th,) the following appearances:—There is a patch of soft elevated tubercles, of a dull red colour, and covered in parts by a dry crust, involving the right ala nasi and septum, and extending about half an inch up the right naris and partially occluding it. Both cutaneous and mucous surfaces of the ala are affected. The entire patch would measure about 1½ inches in diameter. The disease commenced about three months ago in the form of a small soft tubercle near the margin of the nose, and it has continued to increase until it has attained its present dimensions, and threatens to destroy a considerable portion of the organ. It has not been attended by any pain whatever. Dr. MacCallum ordered ℞ liq. arsenicalis ℥ j. vini ferri ℥ iv. aquæ *ad* ℥ vj. a tablespoonful to be taken three times a day immediately after meals; also one drachm of cod liver oil thrice daily.

July 27th.—The patient being placed under chloroform, the crusts were carefully removed from the entire surface of the patch, and the blood carried off. A stick of fused chloride of zinc was then lightly passed over some parts of the tumor and deeply between the tubercles in other and more spongy parts. It was then covered by scraped lint; when the patient emerged from the chloroform sleep, the pain was intense, and a draught containing 10 minims of liq. opii. sedativ. was administered.

July 28th.—A poultice was ordered to be applied until the slough separated, and the parts to be dressed subsequently by the following ointment ℞ ung. simp. ℥ j. acid carbol. ʒ ss.

August 5th.—The chloride of zinc was again applied in the same manner and with the same precautions as before.

August 18th.—Chloride of zinc again applied.

August 26th.—Chloride of zinc again applied.

August 28th.—The arsenic seeming to disagree with the patient was stopped. Cod liver oil continued.

Sept. 2nd.—Cicatrization just about completed. She will have only the least possible deformity, namely, a little nick in the border of the right ala.

Sept. 3rd—Left hospital.

Case 14.—*Acute Pneumonia unattended by cough or expectoration.* Reported by Mr. Thos. G. Johnston.

H. C., aged 27, was admitted into the Montreal General Hospital on the 17th August, 1870. He states that about a week ago, while crossing the Atlantic, he caught a severe cold; he felt a sense of constriction in his chest, could not take a deep inspiration, felt more or less headache, thirst, and loss of appetite, and was quite feverish; never had any cough.

Symptoms on admission.—Chest expansion much more marked on the right than on the left side, respirations 50 in the minute, and laboured; cannot endure lying on his left side, prefers lying on his back; has neither cough nor expectoration.

On percussion, dulness is found over the whole of the back of the left lung, most marked at the base, vocal fremitus greatly increased, particularly at back.

On auscultation, crepitation discovered over left back, tubular breathing very marked at inferior angle of scapula, as also is broncophony; pulse 96; respirations 50; temperature 102; was ordered liq. am. acet. ʒ iij. every two hours, with pulv. ipecac co. grs. v., to be taken at night, and turpentine stupes to chest; chlorides in urine greatly diminshed.

August 18th.—Respiration not nearly so laboured; feels much better although he did not sleep well last night; is perspiring freely; broncophony and tubular breathing still very marked; percussion dullness still intense with great sense of resistance to percussing finger; pulse 84; respirations 48; temperature 100½; ordered to stop the Dovers powder at bed time; reduce dose of liq. am. acet to ʒ ij. and add spts. ammon. aromat m. x: to have 6 oz. of port wine.

Aug. 19th.—Much improved, expression cheerful, perspired a grea deal last night, percussion note not so high pitched, find redux rales at left base; pulse 74; respirations 24; temperature 99½.

August 31st.—Has gradually improved; vesicular murmur returning dullness on percussion very slight.

Sept. 4th.—Was ordered ext. senegœ. fl. m. x. ammon. carb. grs. v. tr. hyosciam m. xv. three times a day; has not had the slightest cough or expectoration since he was admitted; average temperature has been about 99°; to day it is 98½; was ordered full diet and clothes on the 26th.

Sept. 5th.—Complains of slight tightness across the chest; painted with tr. iod. co.

Sept. 9th—Was examined to day; found entirely well and was discharged.

CASE 15.—*Acute Rheumatism cured in eight days by a combined alkaline and blister treatment. Slight relapse from exposure and complete recovery in five days by same treatment.* Reported by MR. GEORGE A. STARK.

Peter D. —, aged 17, was admitted into the Montreal General Hospital on the 4th August, 1870, complaining of severe pains in the joints. He states that he is a farm servant, and has lately been much exposed to vicissitudes of temperature. His present illness commenced on Sunday, 30th July. He was first seized with high fever, which obliged him to go to bed, and this was followed by painful swelling of the ankle joints. On the following day the knee joints became affected, and subsequently the wrist, elbow and shoulder joints. At present all the articulations of the upper and lower extremities, with the exception of the hip, are involved. They are very painful, the slightest motion being almost unbearable, and he cannot endure the affected parts to be touched. He is perfectly helpless and has to be assisted in his movements. Skin hot and covered with perspiration having an acid reaction; pulse full, 96; tongue coated with a yellowish fur; saliva scanty and decidedly acid; urine high colored and acid.

Dr. MacCallum ordered potassæ bicarb. ʒj: every third hour. Blisters to be applied to the fore arm above the wrist joints. Pulv. Ipecac: Comp: gr x at bed time. Milk diet. Extra, 1 pint beef tea.

August 5th.—Feels much easier to-day. The pain is now most severe in the right shoulder. Heat of skin less. Pulse 76. Perspiration and saliva slightly acid. Urine alkaline (within 18 hours.) Has experienced much relief from the blisters; is anxious to have one applied near the

right shoulder. Treatment continued. Blister to be applied to the right arm below the shoulder.

August 8th.—Marked improvement; pain has disappeared from all the joints; pulse 64; urine alkaline. Treatment suspended. Ordered. Half diet.

August 11th.—Continues to improve; perspires freely; tongue clean and moist. Ordered. Quinæ Sulph: gr xii. Acidi Sulph: dil; ʒ ss: Aquæ ℥ vj. a tablespoonful three times a day.

August 12th.—Feels perfectly well. Is now walking about the ward.

RELAPSE.

August 15th.—The patient having exposed himself to a comparative cool air, with insufficient clothing, was seized with severe pain in the left shoulder. A blister was ordered to the left arm below the joint.

August 16th.—Pain much relieved in left shoulder. No other joint affected; urine acid. Ordered: Alkaline mixture as before.

August 17th.—Pain in shoulder steadily diminishing, urine alkaline.

August 20th.—Pain has completely disappeared; tongue clean; urine alkaline. Ordered, omit mixture, full diet.

August 24th.—Discharged from Hospital completely convalescent.

Case 16.—*Intermittent Fever (Quotidian) treated with large doses of Quinine.* Reported by Mr. HENRY P. WRIGHT.

P. J. aged 26, sailor, admitted into the Montreal General Hospital, on Tuesday, 30th August, 1870; is a robust healthy looking man; had an attack of yellow fever eight years ago, does not remember ever having been ill before, and has not been since.

About three weeks ago was at Toledo (U. S.) where he contracted the present illness, the first symptoms of which were headache, languor, loss of appetite and vomiting; continued in this way until Friday last when he was seized with a severe chill followed by great "heat and sweating." Every day since then he has had a similar paroxysm commencing about noon; when seen at 5 p.m was in sweating stage; pulse 106; tongue slightly furred. Dr. McCallum prescribed grs. xxx of quinine, to be taken in divided doses of grs x, before the next fit.

Wednesday, August 31st, 10 a.m.—Slept pretty well through the night although he continued to perspire freely; the paroxysm yesterday lasted about twelve hours.

Thursday, Sept. 1st, 5 p.m.—Had no fit to day nor yesterday; feels much better: pulse 70; tongue still furred; bowels constipated, ordered ℥ ij of black draught and quinin sulph grs ij to be taken every four hours.

Tuesday, Sept. 6th—Looks quite well; feels quite satisfied that the "ague has left him." Discharged.

Case 17. *Acute Dysentery treated with large doses of Ipecacuanha, &c.* Reported by Mr. JOHN W. MATHIESON.

H. McL., *æt* 37, second mate of a barque, was admitted into the Montreal General Hospital on the 17th August, 1870, with dysentery.

He has been a sailor for twenty years, exposed to every change of weather in all climates. He had a very severe attack of dysentery two years ago, and since then his bowels have been susceptible to the slightest irritation. He was last on a voyage to South America, and on his return up the St. Lawrence, three weeks ago, was seized with dysentery. Some days he had twenty motions in the twenty-four hours, and at times there was considerable blood in the stools, though it was not always present. There was great tenderness in the abdomen, and from the first there had been severe tormina. He took brandy and some medicine the captain gave him, but without improvement.

August 18th.—Pulse 68 and moderately full; expression languid and indifferent; dorsum of the tongue (especially towards the root) coated with a white fur, tip and edges clean; skin cool and moist; there is almost constant tenesmus, but no tormina, or tenderness of the abdomen; a muscular pain in the lumbar region after forcing at stool. He has had fourteen motions since he was admitted (eighteen hours ago); the dejections are thin, very offensive, and contain a good deal of blood.

Ordered, tinct. opii. m xv. to be taken immediately and followed in an hour by pulv. ipecac. gr. xx. with strict instructions to use the least possible amount of fluid for the next twenty-four hours, not more than a teaspoonful to be given at a time. To have milk diet.

August 19th.—Pulse 52, soft and full. He retained the ipecac. for eight hours, has had nausea ever since he vomited. Tongue same as yesterday. He had ten motions in the last twenty-four hours, character of the stools unaltered. Ordered to repeat the opiate and follow it by pulv. ipecac. gr. xv. to be taken as before with a minimum of fluid.

August 20th.—He retained the powder and is much better. There is very little blood in his stools, and the tenesmus is less; has had seven

motions in the last twenty-four hours. He complains of pain in passing his urine. It is normal in amount, highly colored, and very strongly acid, sp. gr. 1010, lithates in excess, urohæmatine very abundant. Ordered pulv. ipecac. co. gr. v. every fourth hour.

August 21st.—He is improving, had six motions, still a little blood.

August 23rd.—Had six motions; blood has disappeared. Ordered pulv. kino. co. gr. x. every fourth hour.

August 24th.—Pulse 60. He had eight motions and the stools were streaked with blood. Ordered, pulv. doveri gr. v. every fourth hour.

August 25th.—He feels better than he has done since he was admitted. He has had only two motions in the last twenty-four hours, they were of normal consistency and contained no blood.

August 29th.—He has continued to convalesce without any relapse, feels quite well, but is weak and much reduced. To day he joined his vessel, which sails this evening.

Case 18—*Acute Dysentery treated with large doses of Ipecacuanha*, &c. Reported by Mr. KENNETH GUNSOLUS.

M. R., aged 40, was admitted into the Montreal General Hospital on the 23rd July, 1870. On Tuesday, July the 19th, she exerted herself a good deal, and it being a very hot day, took sick, and the following day was confined to her bed. She passed a very little blood on Tuesday, but on Wednesday passed a great deal, and with much pain and tenesmus. She took no medicine from the day she was taken sick until she entered the Hospital.

Her present condition is as follows: the motions are almost continuous; she passes a good deal of blood, with great straining and pain; there is considerable tormina, and the motions are very offensive; she has considerale fever: her pulse at 4 p.m. is 120 in the minute. Dr. MacCallum ordered her tr: opii m. xv. at once and three powders, consisting each of fifteen grains of ipecacuanha, the first to be given at 4 p.m., the second at 10, and the third at 4 next morning; to be given no fluid of any kind except a little rice water; turpentine stupes to the abdomen.

July 24th.—She vomited the three powders immediately after taking them, and is about the same as yesterday; she goes to stool as often and has great tenesmus; skin dry and hot, and abdomen very tender; pulse about the same; ordered pulv. doveri. grs. 5, every three hours, also a half pint of boiled flour and milk daily.

July 25th.—Much better, skin cool; pulse down to 106; motions much less frequent, and pain much less; vomited once to-day.

July 27th.—Still passing blood, and says she feels very weak; pulse 88; ordered one dose pulv. ipecac. grs. 15, preceded by 15 minums of tincture of opium; the Dover's powder still continued.

July 28th.—Did not pass any blood, was up about twelve times during the last twenty-four hours; pulse 96; perspiring a little; has still great pain on going to stool.

July 29th.—Pulse 80; does not pass any blood; what she passes is of a yellowish colour and very offensive; perspiring freely; tongue almost clean, and moist; Dover's powder continued.

July 31st.—Pulse 98; says she has very little pain on going to stool; passes no blood; the tormina continues; was ordered a ½ lb. of raw beef well pounded; still taking the boiled flour and milk, also the Dover's powder.

Aug. 3rd.—Pulse 30; a little worse to-day, passed some blood, but had little or no pain with the motion; considerable tenderness over the abdomen. Had four motions.

August 4th.—Was up four times during the day, but passes no blood and has no pain; tongue clean and moist; perspiring considerably; her countenance is brighter.

August 6th.—Better, only four or five evacuations in the last twenty-four hours, very little blood passed; countenance brighter; perspiring a good deal; skin cool, tongue moist and no vomiting; considerable tenderness on pressure over the course of the descending colon and especially over the sigmoid flexure.

August 7th.—Pulse 90; worse to-day, passing considerable blood; was at stool nine times in the last twenty-four hours.

August 8th.—Only one motion last night, passed no blood, perspiring very freely, and has not the slightest pain or tenderness over the abdomen; two motions during the day.

August 9th.—Pulse 92; one motion last night and four or five to-day; passed blood twice to day; has a drowsy expression of the countenance; not perspiring much.

August 13th.—Pulse 84, two motions last night, and three to-day; vomited twice last night; countenance not so bright and skin is hotter and drier than yesterday; the Dover's powders were stopped and an injection ordered three times a day; 20 minims tinc. opii. and a teaspoonful of starch at each injection.

August 15th—Pulse 100 and weak; much worse to day; abdomen very tender with tormina and tenesmus all night, which was relieved this morning by the application of turpentine stupes to the abdomen; vomited twice this morning, once at five, then at ten, the second attack

being immediately followed by a chill, coldness of the body, and especially the limbs; teeth chattered; a good deal of headache, &c., which, on the addition of a woollen blanket, and the administration of warm drinks, was followed by copious perspiration.

August 16th.—Only one motion to-day; countenance brighter, but more fever than yesterday; vomited a good deal of yellowish matter, which she says was very bitter; considerable heat of skin, and some headache; rested well last night; only one motion during the day. Starch and opium injections continued.

August 19th.—Evacuations very loose and of a very disagreeable odour, no blood; had considerable epistaxis this morning; the raw beef was stopped and replaced by corn starch and chicken broth.

August 23rd.—Evacuations a good deal better; no tenderness whatever; she is quite cheerful and hopes she may sit up in a few days.

August 27th.—Got her clothes to-day, and is quite well, but very much weakened.

Case 19.—*Acute Dysentery treated with large doses of Ipecacuanha, &c.*
Reported by Mr. G. O. D. WALTON.

J. G., an emigrant recently arrived in the country, was admitted into the Montreal General Hospital on the 5th August, suffering from acute dysentery.

He has an emaciated, sickly appearance, and complains of great debility. His stools are scanty, very frequent, accompanied by great pain and tenesmus, and consist almost entirely of blood; they are highly offensive. His skin is hot and dry, and pulse accelerated.

Dr. MacCallum ordered him tinct. opii. m xv, to be followed in an hour by pulv. ipecac. gr. xx. in a teaspoonful of water, and not more than a teaspoonful of fluid to be given at a time, for the next twenty-four hours. To have milk diet.

Aug. 6th.—Patient much better; did not vomit the powder of ipecac; skin cooler and moister; motions much less frequent, and do not contain so much blood; tenesmus still continues; the same prescription to be repeated, substituting 10 grains for the 20 of ipecacuanha powder.

August 7th.—Blood has entirely disappeared from the motions; tormina and tenesmus no longer present; has perspired freely; ordered pulv. ipecac. comp. gr. v. every fourth hour.

August 10th.—Since last report has continued to make steady improvement and is now quite convalescent.

Case 20.—*Acute Dysentery treated with large doses of Ipecacuanha.* Reported by Mr. T. D. Reed.

J. H., *æt.* 21, boiler maker, not long in this country, had been complaining for a week of his bowels, and getting worse, sought admission to Montreal General Hospital. Admitted August 17th, under Dr. MacCallum ; the day previous he had suffered much with griping pains and tenesmus; the stools were scanty, containing mucus and blood, and were passed almost hourly ; he was at once put on milk diet and ordered to take tinct. opii. m xv. followed in one hour by pulvis ipecac. gr. xx., liquids to be avoided as much as possible, not more than a table spoonful to be given at a time, and to keep his bed.

August 18th—Much better, has been moved three times during the night; patient to get 15 grs. pulv. ipecac. preceded by opium as before.

Aug. 19th.—Continues to improve, has had but one motion during last twenty-four hours.

Aug. 20th.—Convalescent and discharged next day.

The ipecacuanha acted very satisfactorily in this case; it was well borne by the stomach; diaphoresis followed its administration, but no emesis.

PERISCOPIC DEPARTMENT

Surgery.

ON THE TREATMENT OF ACUTE ORCHITIS.

By J. Rouse, Esq , Assistant Surgeon to St. George's Hospital.

[There can be little doubt that, as a rule, the secreting structure of the testicle is entirely unaffected in the acute orchitis following gonorrhœa ; and that the disease is a diffuse inflammation of the connective tissue of the part.]

If we refer to the various authorities as to the treatment to be pursued, we are surprised at the active, not to say violent, means adopted to subdue the inflammation, the character of which (established as it is by the excellent observers quoted) seems to be quite overlooked. Mr. Curling recommends antiphlogistic treatment: " Acute orchitis, if treated quite early with nauseating doses of tartar emetic, usually subsides rapidly, so that this plan renders local depletion unnecessary." "Tartar emetic may be prescribed in camphor mixture, with small doses of sulphate of magnesia and tincture of henbane. Pain and constitutional derangement may be relieved by one or two grains of calomel, combined with eight or

ten grains of Dover's powder, or half a grain of morphia taken at bedtime. In addition to these active measures, leeches along the cord, or bleeding from the veins of the scrotum, is recommended." The treatment by antimony, calomel, and local bleeding seems active enough; but it was reserved for Mr. Henry Smith to recommend a very startling method of cure.

A patient suffering from acute gonorrhœal orchitis, with an unusual amount of swelling and pain, came under Mr. Smith's notice in July, 1863. From the severity of the symptoms it was thought that suppuration must have taken place, and a free and deep incision with a bistoury was made with the view of letting out the pus. To the dismay of the surgeon, a little serum and blood escaped, and the tubes of the testicle protruded through the wound. Two days subsequently the patient was quite free from pain, the swelling and redness had almost disappeared, the protrusion no longer existed. Mr. Smith was so struck by the fortunate termination of the case, that he determined to try the same treatment in other cases; and finding the method of "making a free and deep incision" give relief to pain, Mr. Smith was led to adopt it as the usual treatment of acute orchitis. No one can doubt Mr. Smith's statement of the result of his experiment; but from what has already been stated with reference to the pathological condition of the testicle in cases of gonorrhœal inflammation, we may safely conclude that Mr. Smith's idea that "the free division of the fibrous tissue enveloping the body of the testis, and the consequent removal of tension from the organ, was the secret of success," was erroneous.

Severe and unnecessary as the treatment seems to me, I think it is to be preferred to the calomel-and-antimony treatment still in vogue, for in all Mr. Smith's cases treated by incision no other remedies were employed and the patient escaped all the horrors which Mr. Smith in his paper so well describes, that I am tempted to quote his words: "We all know what a terrible ordeal of violent remedies a patient with acute inflammation of the testicle has to undergo. In the first place, he is obliged to lie in bed for several days, a large number of leeches, or the constant application of ice, being necessary to relieve the pain; and at the same time the unfortunate wretch is compelled to undergo the process of severe purging and continued nausea by repeated doses of salts and tartar emetic, before any decided mitigation of his symptoms ensues.

Having thus briefly discussed the treatment usually adopted for acute orchitis, I must now lay myself open to criticism by stating that, in my opinion, the simplest, most satisfactory, and most efficient treatment is by opium. Until three years ago I was in the habit of treating all cases of

gonorrhœal orchitis with calomel and opium, *i. e.*, two grains of the former with one of the latter, night and morning; and I never found it necessary with this treatment to give antimony, or to make use of local depletion. I object to antimony, not only because it is unnecessary, but also for the reason that patients with orchitis almost always complain of nausea; and it seems to me cruel to add more to the patient's sufferings than can possibly be avoided. Local blood-letting is undesirable: firstly, because it is unnecessary; and secondly, because, if the leeches be applied to the scrotum, it is often difficult to arrest the hæmorrhage without causing the patient pain. In private practice there are many inconveniences connected with blood-letting in such cases, and these ought to have due weight with the surgeon. I was induced to leave off giving calomel in these cases from having observed the following case. I was sent for late one night to see a gentleman, who was said to be dying; and on my arriving at his bedside, I saw him in what appeared to be tetanic convulsions. I was told that he had been suffering from orchitis, and that, at the advice of a medical man, he had been taking calomel and antimony, and rubbing blue ointment into the scrotum over the inflamed testicle. The suffering was so acute that the poor fellow was screaming with the pain; the pulse was 160, and there was profuse sweating. I found that he was already salivated; the testicle was enormously swollen, acutely tender (as well it might be), and looked as if suppuration was going on. Hot opiate fomentations were applied to the part, and a large dose of opium given. The following morning the pain had subsided; and finding so much improvement, I continued the opium and the fomentations. I confess I was surprised to find that in three days, without any other remedy save a purge, the pain quite vanished, and the swelling and tenderness considerably subsided. In the course of a few more days the swelling had quite gone, and the patient was able to resume his usual avocations. This case was so striking in its result, that I resolved to treat the next case I met with in the same way, and see whether the opium really influenced the course of the malady, or whether it had only been useful to allay the irritation set up by injudicious treatment. Accordingly, in the next case that came under my care, having first purged the patient with an ordinary senna draught, I commenced giving a grain of opium night and morning. The pain was quite relieved after two grains had been taken; and in three days all the tenderness had gone, and much of the swelling. I then, bearing in mind the pathological condition of the organ, prescribed twenty drops of the acid tincture of steel three times a-day; and in a week from the commencement of the treatment the patient had quite recovered. Since that time I have always treated

acute orchitis on this plan. My colleague, Mr. Pick, and several of my friends who have been induced to try it, have met with equally satisfactory results; so that I think I am not carried away by my own prejudice when I advocate this simple treatment in preference to the old and complicated one.—*St. George's Hospital Reports, Vol.* iv., 1870, *p.* 251.

ON THE TREATMENT OF INCONTINENCE OF URINE IN CHILDHOOD AND YOUTH BY COLLODION.

By Sir D. J. Corrigan, Bart., Physician in Ordinary to the Queen in Ireland.

[The treatment of this painful affection may be divided into the constitutional and the local. Mechanical means of treatment hitherto used are difficult or impossible to be carried out, and blisters, copaiba, belladonna, and preparations of iron are very uncertain and unsatisfactory.]

Long since I tried to close the opening of the prepuce with adhesive plaster, or court plaster, and in one case, that of a young man of twenty years of age, who had entered the army, and who was intelligent and careful, the result was favourable, but there were great difficulties about it. The application took time, and could not be carried in successful effect with boys and children.

The mechanical treatment to which I now wish to draw attention is the treatment by collodion. It is most easy of application, occupies scarcely a minute, and can be carried out at school, college, or elsewhere, in perfect privacy.

All that is necessary is, while the prepuce slightly curved up is held with the left hand, to smear over the little cup thus formed by the extremity of the prepuce, with collodion by means of a small camel's hair pencil or blunt end of a penholder. Almost as fast as applied the collodion solidifies. In contracting it draws closely together the edges of the prepuce, and thus the exit for the escaping urine is closed.

A boy of eleven years of age has, after one lesson, been able to use the collodion, and has used it every night carefully and diligently, so anxious has he been to cure himself of what he considered a disgrace. A fortnight's use is sometimes sufficient for the cure. A relapse is easily dealt with. A solution of gutta-percha in chloroform would seem at first sight to be equally applicable, but it is not. The solution of gutta-percha is much longer in hardening, and it possesses no contractile powers.

When the child or youth desires to pass water the little wedge or cap of collodion is easily removed with the finger nail.

When I first used this collodion application, my expectation was, that the bladder would act so forcibly against it as to cause sudden pain, and oblige the patient to jump at once out of bed and quickly remove the collodion, and that he should then repeat the application before returning to sleep.

I was agreeably disappointed. There was no pain; no awaking; but on rising in the morning the prepuce was found slightly distended with urine, and the collodion was removed without difficulty.

This unexpected result would lead us to infer that the action of the muscular contractile fibres of the bladder has little to do in causing the nocturnal incontinence of urine in childhood, and that the escape of the fluid is rather due to want of opposition in the sides of the canal of the urethra, or to a feeble state of the circular fibres which are supposed to constitute the sphincter of the neck of the bladder.

Acting on this view I have recommended the child's bed to be made in such form as that while preserving the usual slope for head and shoulder, the rest of the bed shall gently rise as an inclined plane, from hips to feet, so as to allow the urine in the bladder to gravitate towards the fundus, rather than towards the trigone.

In all the instances in which I have used the collodion application the prepuce has been, as, I believe, is nearly always the case in children and boys, projecting over the glans, or in a state that may be designated as natural phimosis. But I do not anticipate any difficulty in using the same application in cases where the corona glandis might be exposed, as the collodion would, I should expect, act equally well over the orifice of the urethra as over the opening in the prepuce.

It may be presumption, but I cannot conclude without expressing a strong opinion against one part of the management of these cases, which is very frequently practised through the best motives on the part of mothers and nurses, and sanctioned by the recommendations of some medical authorities—the practice of awaking the child at stated intervals to pass urine.

I have never seen any benefit whatever from it, and I think I have, on the contrary, always seen aggravation of the affection from it, not unreasonably to be explained, on the principle that such practice is really training the bladder to empty itself at stated periods, when the object is that is should be trained to retain its contents.—*Dublin Quarterly Journal, Feb.*, 1870, *p.* 113.

Medicine.

ON THE CONSTITUTIONAL TREATMENT OF DISEASES OF THE SKIN.

By Dr. McCall Anderson, Professor of the Practice of Medicine in Anderson's University, Glasgow.

A disease which is purely local cannot be benefited by any internal medicine (except arsenic, which acts specially upon the skin), while local treatment is almost always preferable to it. On the other hand, if an eruption is symmetrical—thus indicating, as a rule, its constitutional origin,—or diffused over an extensive surface, it is much more likely to yield to constitutional treatment. Again, if an eruption is coming out rapidly, even when there is constitutional reaction, it generally requires what is denominated a cooling treatment, and is likely to be aggravated by the use, at the outset, of iron, arsenic, and such remedies. It must also be borne in mind that if any derangement of internal organs, of the kidneys, digestive organs, &c., complicates a skin affection, remedies specially directed against the skin disease—tonics, for example—are almost certain to aggravate it.

As long as an eruption continues decidedly to improve, and if the general health is not suffering from the use of the remedy, no radical change should be made in the treatment; but if, as sometimes happens, the patient tires of the long continuance of one prescription, the remedy may be given in another form. Further, if particular medicine is decidedly indicated, and if the patient starts objections to it without good reason, and if you are of opinion that no other medicine has any chance of being equally effectual, it is sometimes allowable to give it in a concealed form. (It is in order that the patient may not know that he is taking opium that the name of the opium pill of the Pharmacopœia has been changed from "pilula opii" to pilula saponis composita.")

In conclusion, let me say that the most judicious treatment is very apt to prove abortive if the diet and regimen are not carefully attended to, in regulating which you must be guided by broad general principles. But let me warn you—and this is a point which is too often ignored,—that sea-air and sea-water are very apt to prove prejudicial in the subjects of skin affections, with the exception, perhaps, of those labouring under strumous diseases.

Purgatives or aperients are of service in at least one-fourth of all skin diseases, at the outset at all events; and many can be cured by the exclusive use of them. This is especially true of the eczematous group when seen in the early or acute stage, and when associated with digestive derangement or constipation. In doubtful cases it is safer to inaugurate

the treatment with aperients; but it must never be forgotten that where debility is well marked, or where there is a decided tendency to ulceration, great caution is required in the use of purgatives. In the employment and selection of purgatives and aperients we must be guided by general principles.

A very excellent aperient is the well-known sulphate-of-magnesia and sulphuric-acid mixture; to which, if there is a gouty tendency, a little wine of colchicum, or, if anæmia, sulphate of iron, may be added as follows:—Sulphate of magnesia, three ounces; dilute sulphuric acid, an ounce and a half; sulphate of iron, three drachms; simple syrup, six ounces; syrup of ginger, one ounce; infusion of quassia to twenty-four ounces; a tablespoonful in a good deal of water, three times a day.

Another very useful tonic aperient, especially if the bowels are easily moved, and if there are indications of nervous debility, is the following:—Phosphate of soda, three ounces; dilute phosphoric acid, two ounces; syrup of ginger, six ounces; compound infusion of gentian, eight ounces; distilled water to twenty-four ounces: shake the bottle: a tablespoonful, in a large wineglassful of water, to be taken three times a day.

In each case the dose must be so regulated that the bowels are kept freely open. If purging is induced it must be diminished; while, if the bowels are not acted upon, a pinch of sulphate of magnesia may be added to each dose in the case of the first prescription, a little phosphate of soda in the second.

In acute cases, one or two full doses of calomel, followed by castor oil or a seidlitz powder, is often beneficial at the outset; but prolonged purgation must in every case be avoided, for although it may remove the eruption for a time, it returns whenever the treatment is stopped, and, by weakening the patient, may indefinitely prolong the disease.

We are told that sulphur is the great blood depurant in the case of diseases of the skin; but, for my part, I have as little faith in it when administered internally as when used as a local application. When it does good, it is generally in virtue of its purgative action; while it has this drawback, that it is converted into sulphuretted hydrogen, so that the secretions have a disagreeable odour. It is usually given in electuary with acid tartrate of potash, but it is better to prescribe one of the natural mineral waters containing it; and the fact that some of these do not act as purgatives must not be taken to disprove my assertion with regard to the *modus operandi* of sulphur, for the benefit which accrues may be due to the combination of salts held in solution. Those of Harrowgate and Moffat in this country, and of Aix-la-Chapelle, Enghien, Barèges, and Luchon on the continent, have the greatest reputation, in this

respect; and while some of these waters may be had from the chemist, it is always more judicious, when it can be effected, to send the patient to the spring itself, for he is thus certain to get the waters fresh and pure, and, away from home and the fatigues and anxieties of business, his body is at the same time invigorated and his mind refreshed.

Diuretics are indicated if the kidneys are torpid, especially in the treatment of the erythematous and eczematous group and in acute cases. Their diuretic action, however, does not always account for the good result observed; thus alkaline diuretics, such as the bicarbonate of potash, or neutral (which in the system are converted in alkaline) salts, such as the acetate of potash, probably do more good in virtue of their alkaline reaction. And this leads me to remark that *alkaline medicines* are especially useful in the treatment of skin diseases occurring in rheumatic and gouty subjects, and in persons who are martyrs to acidity, or in whom there is a tendency to the deposit of uric acid and of urates in the urine. The alkaline and neutral preparations which are most used are salts of potash, such as the acetate, bicarbonate, and citrate; but, if a stimulant is required, I generally prefer the carbonate of ammonia; and it will often be found of advantage to combine these remedies with arsenic, or, if there is a gouty tendency, with colchicum:—Carbonate of ammonia, one ounce; solution of arsenic, three drachms; syrup of ginger, six ounces; infusion of cascarilla to twenty-four ounces. A tablespoonful in half a tumblerful of water three times a day after food.

It must never be forgotten that alkalies should be given largely diluted, and also some time before food, for although the administration of a small quantity of an alkali seems to cause an increased flow of gastric juice, a large quantity may neutralise its acidity. The dose should be so regulated as to keep the urine constantly alkaline as tested with litmus paper; and the medicine should be steadily continued, unless it disagrees, until some time after the disease has disappeared.

Sedatives and narcotics are indicated under the same circumstances as in the treatment of diseases of other organs. But let me remind you—and the remark applies not merely to skin diseases—that sleeplessness is often the result of debility, in which case tonics, especially iron and arsenic, are the best narcotics. Sedatives and narcotics are of no use for the relief of irritation of the skin, except in so far as they may induce sleep; indeed if they derange the stomach they are very apt to increase the irritation.

But, as is well known, opium in small doses, frequently repeated, is of value in the treatment of affections of the skin occurring in broken-down subjects, especially in cases of ulceration; but then they do good in virtue of their stimulating, rather than of their narcotic, properties.

In genuine cases of urticaria persistans, that is nettle-rash, recurring from day to day, and from week to week, when it is independent of local causes, and when no constitutional derangement (disorder of the digestive organs or the like) is present, sedatives are sometimes curatives, especially bromide of potassium in full doses.

Lastly, it need only be mentioned that the neuralgia which so frequently accompanies and follows attacks of shingles is best relieved by the subcutaneous injection of morphia.

Cod-liver oil is indicated in the treatment of strumous diseases of the skin, although it is of more value in preventing fresh outbreaks than in removing existing manifestations.—*Lancet, March* 19, 1870, *p.* 401.

THE THERAPEUTICS OF CHRONIC CONSTIPATION.

By John Kent Spender, M.D., London, Surgeon to the Mineral Water Hospital and to the Eastern Dispensary, Bath.

I do not think that the usual Professional treatment of chronic constipation of the bowels is very satisfactory. It appears to aim at the relief of the one obtrusive symptom, and to help the patient out of a present difficulty without sufficient reference to the future. It removes the obstacle of to-day by legitimate and easy means, but the obstacle of to-morrow is not prevented; hence what is done to-day must be done again to-morrow, and the remedial formula has an awkward *ad infinitum* look about it. My object in this paper is to try and raise a point of every-day practice to a scientific level.

The peristaltic action of the bowels is essentially a quiet and unfelt reflex function. Assuming that the voluntary movements subsidiary to defecation are efficiently performed—I mean the pressure exercised by the muscles of the abdomen on its containing viscera—the fault lies mainly in a defect of the peristaltic action: either it is too slow, or it has too little force, or both force and time may share the torpidness so characteristic of the phlegmatic and scrofulous temperaments. And the root of this state is a sluggish habitude of the nervous system: an insusceptibility which is strictly congenital, which may be roused for a while by dynamic and even by physical stimuli, but which tends to lapse by inherent vice into its chronic torpor. This is the key to any right theory of obstinate constipation of the bowels. The term implies simply that a person being otherwise in tolerable health, the excretory function of the alimentary canal is performed at rarer intervals than is compatible with complete health. And a twofold discomfort arises—partly mechanical, and partly depending upon a contamination of the blood by excrementitious matters.

Among the odd idiosyncrasies which nature displays in the regulation of the digestive functions, an infrequent evacuation of the bowels is very common; and it is important to distinguish this condition from the genuine morbid state rightly denominated constipation. For what is natural to a person can in no sense be called a disease. Many persons seem well, and really are well, whose physiology could not be transferred to any one else, without becoming a pathology more or less developed. No strong hard line can ever be drawn between what is health and what is not health. And it may be declared with absoluteness that if a person can bear an infrequent flux from the intestines, without the slightest apparent inconvenience, it is part of his regular vital plan, and ought not to be stigmatised by the name of disease at all.

It does not come within the scope of this paper to discuss the subject of constipation as subordinate to other maladies, but only when it exists by itself as a primary disorder of function. Assuming, then, that we have before us a case which clearly deserves the name of constipation of the bowels, the therapeutic inquiry is, how shall it be treated? And by the word treatment I push aside all temporary refuges and expedients, all drastic doses and exosmotic drains which merely empty the bowels *pro hâc vice* in the fashion of flooding out an unclean sewer. It may be necessary to do this once as a preliminary step, but what ought to come next? The object of philosophic Medicine is to enable the patient to live without medicine—to realise such a state of health that the medicine (*i. e.*, the medium of health) is no longer required. To purge again and again largely and painfully for a chronic disorder is to clear away a nuisance without removing its cause, and therefore the nuisance must again and again recur. Galen and Hippocrates would have done more than this, an herbalist or quack can scarcely do less.

And yet in recent sound and classical works on digestion and its troubles, I find no very precise indication of higher aims. Aperient medicines are enumerated, and their characteristic properties described, with the completeness and minuteness of a system of Materia Medica. Each drug has its specific virtues; give this or that according as the constipation is more or less obstinate, and according as you have an adult or a child, a strong or a weak person, to deal with. But when the present exigency is remedied, what about a week hence, a month, a year? Is the same drugging to go on eternally—the same potions, pills, or powders to come round in rhythmic order, always satisfying the present need and no more?

The plan which I now propose does bestow some care on the future, and professes to be, so far, curative in its operation. It comprises four therapeutic

factors; (*a*) minute and frequent doses of watery extract of aloes, very rarely of extract of colocynth; (*b*) a dose of sulphate of iron (gr. jss. or ij.) always combined with each dose of the direct aperient; (*c*) regulation of the diet; (*d*) constitutional exercise. I have to write chiefly of factors (*a*) and (*b*). The quantity of extract of aloes, in all but extraordinary cases, should not exceed one grain. It is conveniently given in the form of a pill. With this pill there should always be mixed a dose of sulphate of iron varying from one to three grains; this is the essential point of the treatment. Any other tonic of the neurotic kind cannot supply the place of iron; for the purpose I am now relating, iron is not only *facilè princeps*, but is not interchangeable by anything else. Extract of nux vomica may be added, if the prescriber pleases, as an ornamental appendage or as a means of blending the other constituents together; and belladona is a remedy of definite auxiliary power, but both these drugs, *quoad* constipation of the bowels, are uncertain or unsatisfactory, and rarely do permanent good. I begin, then, by desiring an adult patient to take a pill composed as above three times a day, immediately after the principal meals. He is cautioned that at first there will be probably no apparent effect, and that two or even three days may pass before any medicinal evacuation of the bowels takes place, perhaps even then difficult and discomforting. But within the next forty-eight hours there will be most likely an evacuation of the bowels once or possibly twice in the day; *but nothing approaching to purgation ought ever to be permitted*, and therefore the patient must be instructed, on the occurrence of the first loose motion, to withhold a pill, and to take only one in the morning and one in the evening. He then continues for a time his morning and evening pill, and is pleased to discover that so slender a medicament has such a decided effect. Not improbably, at the end of another week or fortnight he is compelled by the same reason as before to drop another pill, and the same result is now brought about by one pill daily, as was originally produced by three pills. Within another month, he may reduce his allowance of medicine to a single pill once or twice a week; and, finally, his whole scheme of Medical treatment becomes merely preventive in its design and scope, and he takes a pill occasionally for the sake of maintaining health and warding off old troubles.

When there is a real or fanciful difficulty in the administration of pills, the best way of carrying out the plan above described is by combining the *mistura ferri composita* with the *decoctum aloës compositum*, the doses being determined by an application of the same principles. There is wider room for the addition of auxiliary drugs, but, on the whole, I have not obtained such satisfactory results by this method.

I cannot lay too much stress on avoiding anything like an over-purgative effect by the drugs employed. If on this account the treatment has on any occasion to be stopped, there is so much time lost and so much ground to be retraced. A patient may, unintentionally, exaggerate his difficulties, but the skilful practitioner will not therefore depart from the fundamental principle of minute and frequent doses of his medicine. In this way Nature is coaxed and assisted, instead of being forced and worried; and I declare, without hesitation, that only by this means can a sure and permanent benefit be realised.

The urgency of regulating the quantity and quality of the food is so obvious, that I need add nothing to what has been so well laid down by systematic writers. The necessity of constitutional exercise—a definite amount every day—is equally clear, and its physiology requires no illustration here. The serious and ingravescent forms of constipation which are secondary to stricture (cancerous or fibrous) may be temporarily relieved by the plan I have sketched; but ultimately the obstruction will defy all ordinary remedies, and our suspicions should be aroused to the possibility of organic disease, whenever a retrogade step occurs again and again after apparent success has been attained.

There is a form of constipation, observed chiefly among women, marked by intense neuralgia of the rectum after every motion. It is well to ascertain that there is no fissure of the mucous membrane; but, this point being assured, speedy (and eventually perhaps complete) relief may be obtained by the following powder taken twice a day:—Sesquioxide of iron, one drachm; bitartrate of potash, one drachm; powdered cubebs, fifteen grains; mix. This may be continued once daily for weeks or months. I conclude with a caution. Constitutional tuberculosis had better be let alone, *quoad* aperient medicines. Peritoneal or intestinal tubercle is a grave malady to light up, and a state of comparative constipation may be nature's method of keeping things quiet in the abdominal region. At all events, aperient medicines of every kind ought to be strictly subordinate to general treatment.

THE MANAGEMENT OF SOME CUTANEOUS DISEASES OF THE LOWER LIMBS.

By John Kent Spender, M. D., London.

Cutaneous diseases of the lower limbs are either (*a*) a fragment of a larger trouble spread over more or less of the entire body, or (*b*) they are the outcome of a local lesion, and express with some preciseness the extent and severity of that lesion. In the former case, the therapeutics of a part are merged in the therapeutics of the whole, and one skin-area is not

thought of more than another, except so far as may concern the convenient use of external applications. In the latter case, the local lesion stands to the cutaneous disease in a casual relation, either producing it or aggravating it, and requiring distinct and specific attention before its effects can be permanently removed.

Every practitioner will recognise *Erythema nosodum*, although it may be difficult to state anything definite about its nature and origin—whether it be an exanthem or a neurosis. And though it comes to an end "spontaneously," and leaves behind "no ill effects," it does not follow, as Hebra seems to suggest, that treatment is unnecessary or superfluous. It may be safely asserted that the constitutional affinities of the disease indicate what may and ought to be done. Internally, I combine sulphate of iron with a dilute mineral acid and very mild saline purgatives.

℞ Magnes: Sulphat: gr. xx. Ferri Sulph: gr. iiss. Acid: Sulph: dil: m v. Tr: Aurant: m. xv. Aquæ puræ ℥ i., ft. haust. ter die sumend.

This may be given to an adult woman, and a mild aloetic pill, now and then, may be necessary also. Pure neurotic remedies, like quinine or strychnine, do little good by themselves; but they may assist the hæmatic powers of iron, and arsenic may favourably influence the vaso-motor nerves.

In nearly every case I support the limb with a Domette flannel bandage, which may be applied with considerable pressure. Domette flannel is a material which makes an excellent bandage; it is yielding and elastic, and yet almost any degree of compression can be exercised with it. The calorific properties of flannel are useful, too, as nearly all erythematous legs are below the normal temperature. Every third or fourth day the bandage is removed, and the limb may then be shampooed with a lather soap and hot water. Sea-bathing is highly to be recommended.

Erythema cuberculatum and *Erythema papulatum* are merely small patches of *E. nodosum*, and are most common on the back of the leg. The clammy purple legs of young women suffering from chlorosis improve wonderfully under the stimuli of the warmth and pressure of a Domette flannel bandage. This condition of the lower limb is not true erythema, but is more allied to passive congestion, or chilblain.

The neurological affinities of erythema are shown (*a*) by its tendency to recur, and (*b*) by its frequent association with rheumatism (*E. circinatum*); but there is much yet to be learned about the disease.

Eczema assumes many forms on the lower limbs. Ascribing its origin to "perverted innervation," according to the most recent doctrines, this multiform aspect of eczema is easily to be explained; and the constitu-

tional *context* of the disease will often correctly indicate its probable species.

In this place, however, I have to discuss not what eczema is, but how it is to be treated. When the vesicles of eczema burst, thin scabs cover the inflamed patches: the scabs are composed of "epithelium and the fixed constituents of the fluid of the vesicles" (Sir W. Jenner). Now, I accept this scabbing as a natural method of cure, and I try to assist nature accordingly. The scabs or scales ought not to be disturbed; they protect the hyperæmic inflammatory cutis, and wait until it is covered by healthy cuticle. *Eczema simplex* exhibits the so-called eczematous condition in its type-form: it can scarcely be confounded with anything else. A middle-aged, healthy man, a farmer, consulted me for two long transverse patches of *E. simplex* on the front of the leg and instep: the general heath seemed good. The patches were washed with a solution of nitrate of silver (20 grains of the salt to the ounce of distilled water); they were then covered with chalk and benzoated zinc ointment, spread thickly upon soft lint, and a Domette flannel bandage was applied over all. The dressings were renewed on alternate days, and five drops of liquor arsenicalis were administered in water every six hours. There was an immediate relief from pain and worry, and a complete cure was effected in a very short time. It is worthy of remark that the nitrate of silver solution supplies a *chemical* scabbing, which is an aid to the crust formed out of the ointment and the epithelial scales.

Eczema rubrum has a distinct hyperæmic or quasi-inflammatory basis, and is frequently connected with varicose veins. There is often much œdema of the sub-cutaneous structures at the same time; a local anasarca which seems to proceed, at least in part, from cutaneous irritation. A large tract of skin may be hot and red, thin serum steaming out at every pore, and almost "scalding" the adjacent integument over which it flows. Most of the scales or scabs are washed away by the abundance of alkaline serosity, but the remains of some may be generally detected at the edge of the inflamed surface. No species of eczema goes so satisfactorily to prove that this is essentially a perverted nutrition of the skin structure.

I have already published a method of treating *Eczema rubrum*, which I have found very successful. I take some common black-wash (*lotio hydrargiri nigra* of the Ph. B), mix with it a tenth or twelfth part of glycerine by measure, and let it be well shaken. A small quantity of this mixture being poured into a wide, shallow vessel (as a saucer), strips of linen are soaked in it, and, after being lightly squeezed, are placed evenly and smoothly round the affected part of the limb, a portion of the

black oxide of mercury adhering to the linen. A bandage secures the dressing in its place, and the work is done. The dressing should be renewed morning and evening; an impervious covering should on no account be put over it, as the pent-up secretion would decompose, and possibly inoculate a fresh area of sound skin; and the dry linen strips can always be easily removed by being first well saturated with warm water.

In certain cases, the cure of *E. rubrum* may be facilitated by brushing the red, moist surface with a solution of nitrate of silver, before the dressing of "black-wash" is applied.

Arsenic should never be prescribed for internal use during the early stage of this disease; an enervescing saline draught is a pleasant form of "febrifuge" medicine, and a strong, saline purgative is often necessary. The diet should be nourishing, without stimulation.

The sub-acute variety of *E. rubrum*, in which the amount of fluid is so small, that it dries into thin crusts (resembling, at a hasty glance, psoriasis), is treated with great advantage by the administration of arsenic, and by the external use of tar. The therapeutic agency of tar has scarcely been fully recognised, owing, probably, to the fact that it is commonly applied in too strong a form. It is unfortunate that the British Pharmacopœia offers no convenient preparation, and the only resource is to dilute the *unguentum picis liquidæ* with a large per-centage of chalk and zinc ointments, which ought to be melted together and stirred while cooling; in this way a homogeneous ointment is prepared, which may be spread evenly on soft lint; and, when the leg is dressed with it, a new, healthy epidermis forms under the incrustation made by the chalky constituent of the ointment. The Domette flannel bandage may be put on the limb to keep the dressing in its place; and the application must be renewed every second or third day, according to circumstances.

Herpes zoster may affect the outside, front, and inside of the thigh. There is usually a history of severe pains, which are ascribed by the patient to "rheumatism." A combination of quinine and arsenic is certainly very useful in the early neuralgic stage of this disease; and when the neurosis is very severe, nothing relieves it so much as a blister upon the side of the lower spine corresponding to the seat of the disease. —*Belfast Journal of Cutaneous Medicine.*

REMARKS ON THE TREATMENT OF ACUTE RHEUMATISM BY THE TINCTURE OF THE PERCHLORIDE OF IRON.

By Dr. J. Russell Reynolds, F.R.S., Physician to University College Hospital.

The marked effects produced by the tincture of the perchloride of iron on the course of such "spreading" inflammatory affections as erysipelas and diphtheroid sore-throat induced me, some months ago, to administer this medicine to cases of another "spreading" inflammatory disease—viz., acute rheumatism. I have treated eight cases by this drug—cases all of them severe, and, with one exception, occurring during the unfavourable weather of the spring of this year. The number of cases is too small for a general conclusion to be drawn from them as to the treatment of rheumatic fever; but the character of the facts is such that they may be used to point out the direction in which such conclusion may eventually be found; while the success which attended this mode of treatment was so great as to justify its employment upon an extended scale.

I will enumerate, as briefly as possible, the essential points of each case.

Case 1.—Male, aged 26; first attack. He had been eight days ill with fever and joint-affection. He was seen on the eighth day, with inflamed joints of all four extremities, and endocarditis. Pulse 112. The urine was alkaline. His face was anæmic. Temperature 101·4 deg. He was ordered thirty minims of tincture of perchloride of iron every six hours. The patient improved at once; and on the tenth day of illness—*i. e.*, on the second day from the commencement of treatment—he felt well, slept soundly, and took food. On the thirteenth day, the patient still feeling well, temperature rose to 102 deg., and, a few hours later, to 104 deg. Violent delirium set in suddenly on the fifteenth day. The temperature rose to 109 deg. The patient became comatose, and died on the sixteenth day; the temperature having reached 110·2 deg. shortly before death.

Case 2.—Male, aged 22; second attack. He was seen on the fourth day of illness. The knees and ankles were principally affected. He had much sweating and exhaustion, and endopericarditis. The urine was alkaline, with some discharge left from gonorrhœa of two months' duration. Pulse 100; temperature 102·2 deg. The medicine was ordered on the fourth day of illness. The pain was relieved on the next day, and was absent on the third day. The temperature was normal on the fifth day of treatment—*i. e.*, the ninth day since the attack. While this patient was taking iron, the pulse became as low on one day as 60 per minute.

Case 3.—Male, aged 20; third attack. He was seen on the sixth day of illness—*i. e.*, on the sixth day from the occurrence of the joint-affection, and the fourth day from the onset of fever. The joints were universally affected, and severely. A murmur was present both at the base of the heart and at the mitral apex—probably old. Pulse 96; temperature 102 deg. The tincture of perchloride of iron was given in forty minim doses; it was ordered on the sixth day of illness. The patient was much relieved, and the pain was almost gone, next day. The temperature was normal on the second day of treatment, or eighth day of disease. The temperature was below the normal on the thirteenth and fourteenth days.

Case 4.—Female, aged 18; second attack. She was seen first on the seventh day of illness, suffering in the joints of both upper and lower extremities, with much perspiration. Pulse 104; temperature 101·4 deg. The heart was dilated with aortic regurgitation. The pain was greatly relieved on the fifth day of treatment. The temperature became normal on the seventh day of treatment—*i. e.*, on the fourteenth day from the onset of symptoms.

Case 5.—Female, aged 18; first attack. She was admitted on the third day of illness, with typhoid aspect, much prostration, and pain and swelling of the joints confined to the lower extremities. There was a systolic murmur at the base of the heart, probably hæmic. Pulse 120; temperature 104 deg. Tincture of perchloride of iron, in forty minim doses every six hours, was ordered on the third day of illness. The pain was relieved, and the patient much improved on the fifth day of illness—*i. e.*, two days after the treatment was commenced. The temperature was normal on the fourth day of treatment, the seventh from the commencement of symptoms. In this case, after the iron had been discontinued, the pulse became irregular, weak, as low as 56 in the minute, and occasionally intermittent for two days. There was at the same time much pallor; but the patient made a good recovery.

Case 6.—Female, aged 30; seen on the eleventh day of her first attack. There had been illness, with cough and fever, for eleven days; inflammation of the joints for eight days; and sweating for one day, before admission. Both upper and lower extremities were involved. The heart was weak and irregular in its action, and there was no friction-sound at the base. Pulse 124; temperature 102·4 deg. Tincture of iron was prescribed on the eighth day of the joint-affection, and the pain disappeared almost entirely within twenty-four hours; the temperature fell at once, and became normal on the fifth day of treatment, or the thirteenth day from the occurrence of articular inflammation.

Case 7.—Female, aged 24; first attack, commencing seven days before

admission. On admission, the patient was pale and sweating, with much effusion in the joints of the lower extremities, and mitral regurgitation. Pulse 120; temperature 103·4 deg. The pain was diminished immediately, and almost removed at the end of the next day. The temperature became gradually reduced, and was normal on the seventh day of treatment; and remained so until the eleventh day, when the iron was discontinued. On the eighteenth day there was a relapse, and the temperature rose again, until on the twenty-third day, it reached 104 deg. Iron was administered on the second day of relapse, and relief followed on the third day of its administration; while the temperature became normal on the seventh day of treatment, or eighth day of relapse.

Case 8.—Female, aged 16, seen on the ninth day of her first attack. The joints of both upper and lower extremities were involved. There was pericarditis with effusion. Pulse 100; temperature 102·4 deg. The pain was relieved almost immediately; and the joint-affection disappeared in the course of forty-eight hours: but pneumonia occurred, and for many days the temperature remained high—finally, however, becoming normal on the twenty-seventh day, and the patient making a good recovery.

The points to which I wish to direct attention are the following.

1. *The relief of the joint-affection.*—This appears to me to have been so definite, uniform, and speedy, that it would be difficult to account for it upon any other supposition than that it was the result of the treatment. In four cases, it was relieved in one day; in three cases, it ceased in two days; in one case—viz., that of the relapse mentioned in No. 7—it was removed in three days; and the longest period of suffering noted after the commencement of treatment was five days. If we take the mean duration of the joint-affection after the exhibition of the iron, we find it to be two days.

2. *The duration of pyrexia after the administration of iron.*—In one case—viz., that which ended fatally with cerebral symptoms—the temperature never fell below 101·4 deg; and it is important to observe this fact, notwithstanding the disappearance of the articular affection. In one case, the temperature was normal on the second day; in one, on the fourth; in two cases, on the fifth; in three, on the seventh, one of these being an example of relapse; in one, on the eighteenth day, this being in the girl who suffered from pneumonia. If we exclude from analysis the first case—viz., that with cerebral symptoms and a high temperature; and also the last—that in which pneumonia was intercurrent—we find that the temperature became normal between the second and the seventh days; the mean duration of pyrexia after the iron treatment was commenced being a little less than five days and a half.

3. *The total duration of pyrexia;* viz., that which existed from the onset of symptoms to the permanent fall of temperature. Here, again, it is necessary to exclude the first case and the last; for in the one the pyrexia never ceased, and in the other it was maintained by an intercurrent affection. In one patient, the total duration of rheumatic fever was seven days; in two, it was eight; in one, it was nine; in one, thirteen; in one, fourteen; in another, fifteen. Hence it would appear that the mean duration of rheumatic fever in these seven cases was a little in excess of ten and a half days.

4. *The influence on the duration of the disease exerted by the time at which the treatment was commenced.*—In three cases, the iron was given on or before the fourth day of the disease, and the mean duration of the malady from first to last was eight days; in four cases, the medicine was administered for the first time on the sixth, seventh, and eighth days; and in three the mean of the total duration was rather above twelve days.

5. *The entire absence of any symptom of discomfort induced by the iron.*—There was no headache in any case; the tongue cleaned; and the general feelings of the patient speedily improved. As I have already said, the number of cases here examined is too small to allow of any general deduction with regard to so variable a malady as rheumatic fever; but, while the number of cases is small, the facts are, in my opinion, so definite, and so constant in the direction to which they point, that I trust they will lead others to employ, and on a large scale, a medicine which has certainly done no harm, and has appeared to relieve very materially the pain, and shorten the duration of one of the most distressing and most tedious of acute diseases.—*British Medical Journal.*

NOTES ON CUTANEOUS THERAPEUTICS.

By J. Waring Curran, L.K. & Q.C.P.I., L.R.C.S.I.

In the columns of a much-respected contemporary, the *Medical Press and Circular*, I have already published my experience of the Iodide of Ammonium in the treatment of diseases of the glandular system. My experience of the drug has been extensive, and its success in the treatment of the diseases indicated in the communication to which I refer, is best exemplified by the fact that I continue its use in those diseases, and that the most eminent Dermatologists in England and Ireland have communicated to me corroborative testimony of its value and efficacy as a therapeutic agent, and its greater potency over the iodide of potassium.

Here I must content myself with the action of the iodide of ammonium in the treatment of a most common, but not the less troublesome disease, *Erysipelas*. Remembering that erysipelas is an unhealthy inflammation of the skin, with a disposition to spread, and that it is essentially a blood disease dependent upon some zymotic cause, depositing its morbid products—some unhealthy plasma—in the cutaneous structures. I must not pretend, as some enthusiasts boast, the power to cure the disease by local applications alone; but I do contend that the progress of the disease can be stayed until the germs of the complaint are diminished by a method of treatment which I shall presently explain.

Simple Cutaneous Erysipelas is never a troublesome complaint unless when it affects some loose cellular part, when it becomes somewhat complicated, and not unfrequently, owing to the amount of serous effusion, terminates in purulent infiltration. This is very tedious and very undesirable, whilst it seriously retards recovery by the introduction of fresh symptoms, not unfrequently difficult to overcome. In this variety of erysipelas I apply to the part affected the iodide of ammonium ointment. I prescribe it of the same strength as the iodide of the potassium ointment of the British Pharmacopœia, and its effect is to be observed rather than described. It rapidly promotes absorption of the effusion underneath the skin, and in sixteen cases in which I have employed it, this drug has been uniformly successful. In one patient the lancet had to be called into requisition, but in this I was late commencing my treatment. At the same time I exhibit internally with infusion of yellow cinchona bark, four-grain doses of the iodide of ammonium, thrice daily.

I must honestly acknowledge that I have fairly experimented with the iodide of ammonium ointment in *phlegmonous erysipelas*, and that I have failed in obtaining good results from its use in that form of the disease.

Now, and I trust success will actuate me in always adhering to the plan when called in to a case of erysipelas, erratic or otherwise, I direct some of the ointment to be smeared over the eruption; but following upon the plan of Mr. Higginbotham, applying nitrate of silver to the healthy skin immediately surrounding the diseased part, I spread iodide of ammonium ointment on strips of lint, and apply the pledgets around the circumferental parts, *I am proud to say that the rash has never yet spread beyond the anointed lint.* When erysipelas affects the face and head, this method of treatment is somewhat difficult to carry out, but I reason my patient into a permission to remove the hair, and carry into execution my plan.

In no single instance have I had *metastasis* to the *meninges*, because I contend that iodide of ammonium promotes the absorption of the unhealthy plasma when locally applied, and that when internally administered, it carries off through the eliminative channels the *materies morbi* of the disease. It is needless for me to remark that I freely purge in all cases as well, and that the purgative I use is podophyllin, combined with compound extract of colocynth. In the debilitated I have recourse to a milder aperient. Of course it is necessary to be guided by the habits, constitution, and strength of system indicated by the patient.

As an adjunct to the ointment I recommend, I have found in practice considerable, in truth very valuable, help from the effects of *pressure*, when the swelling is great and the effusion extreme. After the application of the cerate, I firmly, but not too tightly, adjust a bandage made of same light fabric. When it is not feasible, owing to the part affected, to apply bandaging over the dressing, I firmly but with equal pressure place some strips of soap plaster: from this I have attained more rapid absorption.

Some cases are accompanied by a high amount of inflammatory fever, with great increase of temperature; in simple language, when the hand is placed over the erysipilatous rash, a burning sensation is experienced. In such a case, before employing my cerate, I sponge (and if need be constantly apply for a few hours) this part with a lotion of spirits of ammonia.

If the patient be of an irritable habit, or complain loudly of pain, I prescribe a little liniment of belladonna with the cerate. It is a useful and tranquillising addition, steadying the capillary circulation, by overcoming the contracted condition of the vessels.—*Belfast Journal of Cutaneous Medicine.*

THE CHIEF CAUSES OF HOARSENESS AND APHONIA, WITH HINTS ON TREATMENT.

By Dr. George Johnson, Professor of Medicine in King's College, and Physician to King's College Hospital.

There are cases of purely nervous or functional, or, as they are sometimes called, hysterical aphonia. The voice may be reduced to a whisper, and even that is sometimes inaudible. On looking into the larynx, we see no evidence of structural change, but when the patient attempts to vocalize we find that the vocal cords remain motionless, or that they move very little. This nervous aphonia often comes on suddenly, and it often passes away as suddenly as it came. The best treatment for it consists in the application of electricity directly to the larynx by means of Dr. Morell Mackenzie's "laryngeal galvaniser." The shock excites spasm

and a scream, and the cure is sometimes very rapid. I have cured several of these cases at a single sitting, and one by a single shock of electricity. A boy, about twelve years of age, was much frightened, and nearly drowned, by falling into a pond. From that time he completely lost his voice, his intellect being unimpaired. When I saw him he had not uttered an audible sound for two years. I saw that his larynx was healthy, and I determined to apply electricity. The first shock elicited a loud scream, and at once he recovered his speech.

In most cases it is necessary to apply the electricity again and again before the cure is complete, and in some cases the treatment is unsuccessful; but these are comparatively rare. When the general health is impaired, treatment should be directed to remedy this while the electricity is being employed.

It is remarkable, but quite intelligible, that when, from any cause—a growth upon one of the vocal cords, or inaction of the muscles—the glottis remains partly open during vocalisation, the air escapes so rapidly during the expiratory act of speaking, that the patient is often compelled to draw in a fresh breath before he comes to the end of a sentence. In consequence of the patulous state of the glottis, there is a rapid escape and waste of air, and the chest is soon emptied.

There is a form of aphonia or weakness of voice which I look upon as the result of muscular fatigue and weakness. I have seen a considerable number of these cases, and most of the patients have been clergymen. The patient begins to speak in a clear and loud voice, and he continues to do so for a variable time; but after speaking or reading aloud for, it may be, a quarter or half an hour, the voice becomes feeble, and it may soon be reduced to a whisper. At the same time there is a feeling of fatigue, and sometimes positive pain in the throat. With these symptoms we may find, on looking into the larynx, no trace of structural change, or only slight congestion and redness without swelling. A common cause of this form of dysphonia is overwork of the larynx, from frequent preaching and reading in large churches. I have known it to result from overexercise of the voice in singing, from straining of the voice by the habit of loud talking in the midst of noisy machinery, and from violent efforts in giving the word of command.

In some instances this peculiar form of laryngeal weakness has followed upon an inflammatory attack. It seems probable that inflammation may sometimes extend from the mucous membrane to the muscular structures beneath, and thus the nutrition and the tone of the muscles may be impaired. This is the more likely to happen if the larynx be much exercised in speaking or singing during an attack of catarrhal inflammation.

The best treatment for these cases consists in rest for the larynx as the organ of speech, change of air and scene, and a general tonic regimen. The daily application to the larynx of a saturated solution of tannin in glycerine often does good. Tannin lozenges, too, may help to give tone to the feeble voice, and the combination of iron with small doses of strychnia is sometimes useful. I have tried galvanism, but I have hitherto seen no benefit from its use in this class of cases.—*Medical Times and Gazette.*

USE OF BELLADONNA IN CONSTIPATION.

By Dr. F. B. Nunneley.

[The remarks in the following paper on the medicinal treatment of constipation, by means of belladonna, are founded upon experience at the York Dispensary.]

The method followed was, in the main, that recommended by Trousseau. Extract of belladonna was given in doses of gr. $\frac{1}{6}$ to gr. $\frac{2}{3}$ on rising every morning. A grain of the extract and gr. iij. of the extract gentianæ were divided into six pills, and one to four prescribed for a dose.

On analysing the cases of constipation, both recent and of long standing, it was found that the greater number were associated with dyspepsia, and especially with that form presented more or less the characters of gastric irritation, in which the tongue was thinly furred, with prominent red papillæ at the tip, and in which there was tenderness at the epigastrium, pain, especially after food, and often more or less headache. Patients with these symptoms presented themselves with a history of inactive bowels for several months or years, often stating that they were obliged to take aperient pills, senna, castor-oil, &c., once or twice a week to produce an evacuation. The ages of those patients varied from twenty to sixty years of age, the majority lying between twenty-six and fifty. To these belladonna was given for from one to three weeks. It nearly always caused an evacuation, usually of solid stools, after breakfast on the morning on which it had been taken. Generally the bowels continued regular after the belladonna was discontinued, and sometimes headache was greatly mitigated. In one case, the patient, a woman, aged 47, had had constipated bowels for twenty-six years, for which she had taken pills or castor-oil once a week. Belladonna restored the natural daily action in fourteen days. In a few cases no permanent cure was effected, but relief could be obtained by taking belladonna every second or third day, the dose had not to be augmented, and no increased constipation followed its use.

In more recent cases the natural action of the bowels was restored in a few days: thus a man had taken pills every other day for five weeks, but the bowels acted naturally after taking belladonna for six days.

Treatment was especially directed to the dyspepsia in all cases, but no aperient except belladonna was given, and frequently not this, until the effect of regulated diet and habits, and of general treatment, had been observed.

The remaining cases of constipation occurred in very various diseases. Most often belladonna acted as an ordinary aperient when given in the manner before stated, and its use had not to be continued more than from one to three weeks to cure the constipation. Rarely, it produced no effect even in doses gr. $\frac{1}{2}$ to gr. j, except causing dryness of the throat: such a failure occurred in the third stage of phthisis.

Belladonna in the usual dose of gr. $\frac{1}{6}$ to gr. $\frac{1}{2}$ produced no dryness of the throat, or dilatation of the pupil, but presented the following advantages over ordinary purgatives:—It did not gripe but gave usually a healthy solid stool, increased constipation did not follow its use, and it very often restored the natural action of the bowels, so as to render a recurrence to this or other aperient unnecessary. Another and important advantage is the small bulk in which the remedy can be given.—*Practitioner, April*, 1870, *p.* 217.

INQUIRY INTO THE NATURE, ORIGIN, AND TREATMENT OF HYSTERIC DISEASE.

A PAPER READ BY DR. ROBERT LEE BEFORE THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY, TUESDAY, MARCH 8, 1870.

DR. BARROWS, F.R.S., President, in the chair.

In the first part of this paper, the author gave an elaborate review of the history of hysteric diseases from the earliest ages to the present time. The opinions and methods of treatment adopted by Artæus, Galen, Celsus, Sydenham, Hoffman, Cullen, and the most eminent writers of the present century, were given in detail. Respecting hysteria in the male sex, the author stated that he had never seen a genuine example; but in the female sex, a great number—a greater number than it was possible for him to state. An accurate report of upwards of two hundred of these cases accompanied the communication. If these histories were examined, the author stated, the following conclusions might be drawn. In none did the disease occur before the age of puberty, and in few after the middle period of life. In few of the cases recorded were the functions of the ovaries and uterus in a perfectly healthy state. In the greater num-

ber there was amenorrhœa, dysmenorrhœa, menorrhagia, leucorrhœa, or a morbid state of increased or diminished sensibility in the uterine organs, without any organic disease. The author added that, in the greater number, there was incurable sterility; and he stated that he had been led to conclude from the symptoms observed in these cases that hysteria originates in the ovary, on which menstruation depends, in which conception takes place, and to the influence of which are to be attributed the development of the female pelvis and mammæ, and all the peculiarities of the female constitution. The result of the author's dissections of the renal ganglia and nerves, and those of the ovary, now in the museum of the university at Cambridge, were given; and from them an explanation was given of the cause of the discharge of a great quantity of clear urine after the hysteric paroxysms. Other seats of hysteria were then described, with a letter on the subject from Mr. Joseph Swan. The paper concluded with a summary of the different remedies employed in the two hundred cases; the two last of these methods of treatment were clitoridectomy and cutting away the coccyx.—*Medical Times and Gazette.*

Materia Medica and Chemistry.

CHLORAL IN PHTHISIS.

What has struck me with regard to the hypnotic effects produced by chloral, is the fact pointed out by Liebreich, that it causes sleep without exciting the pulse or respiration. In the majority of cases, it produces no excitement or uneasiness, nor is it followed by headache, furred tongue, or feeling of depression. With a few exceptions, indeed, it seems in moderate doses, to occasion natural sleep.

Under its influence, I have seen rabbits motionless, breathing tranquilly, and evidently fast asleep, who could be roused so as to take a few steps, or eat a little cabbage, and then, overcome by drowsiness, fall asleep again. The same power of being aroused from a moderate dose occurs in the human subject. No doubt the somnolence may be augmented by increasing the dose, until it becomes soporose or comatose, when stimulants fail to rouse. Of the intensity of this last effect in man, however, little is known; but from what has been observed in the lower animals, there can be little doubt that sufficient coma can be produced to admit of operating without pain. Whether, however, chloral is so easily manageable as ether or chloroform, remains to be seen.

The qualities I have described render chloral highly serviceable to the physician. Although in a few instances it has occasioned excitement before sleep, and headache afterwards, in the majority of cases it is not a

narcotic but a pure hypnotic. The ill effects so common in the administration of opiates I have not witnessed on giving chloral at all. For example, the pupil is not contracted more than in ordinary sleep. There is not, for the most part, on waking, the confusion of head, the sense of depression, the furred tongue, want of appetite, nausea or vomiting, suppression of the secretions or constipation, so common after giving opiates. It therefore occurred to me that it would be a most useful hypnotic in phthisis. Thus it too frequently happens that cough, pains in the chest, and restlessness at night, if alleviated by opiates or by that excellent preparation chlorodyne, leave the patient so depressed, feverish and weak, as to do more harm than good. Indeed in my own practice I have found that such is the loss of appetite, increased weakness, and emaciation that follow their use, that I never give them except in the last stages of the disease, and when all hope of prolonging life having ceased, we choose the least of evils in procuring even unhealthy sleep. But matters are greatly changed when we are able to obtain the natural sleep that chloral produces. By its aid we can lull irritation, and give rest for a time, in many cases, without any injury whatever. I have recently made special observations on this point in nine cases of phthisis now under my care in the clinical wards, and have collected the experience of some of my colleagues.

I think that it will be admitted that no kind of opiate would have produced such uniformly good, and so few bad results in twenty-one cases of phthisis, as is here shown to have been the effects of chloral. In three cases individuals slept habitually, and the remedy only intensified sleep without effecting the head, tongue, or appetite. In one case, in addition to cough and restlessness at night, there was considerable sweating which was much alleviated by the chloral. To assure myself of this fact, it was given ten nights running, always producing good effects, and when stopped, the sweating increased. In one case it produced excitement and a state approaching delirium, but the dose was thirty grains. In one case the same dose caused slight headache in the morning. In one case also the tongue was more furred afterwards. In all the cases the relief to the cough and restlessness, with the production of sound sleep, was most marked, while the head, tongue and appetite were in no way affected. For the same reasons that chloral is useful in phthisis, it has been found beneficial in certain cerebral diseases, in which opium is contra-indicated. In an otherclass of cases, however, the valuable qualities of the latter drug in checking secretion while acting as a sedative, will give it superiority. I refrain, however, from entering into a consideration of the numerous diseases in which the drug has been adminis-

tered and recorded by Liebreich and several others. The first step, it appears to me, ought to be a determination of its physiological action; and this, so far as experiment and observation have yet gone, points to its being, in moderate doses of twenty to thirty grains, the purest hypnotic we possess; in doses of thirty to sixty grains, it causes excitement, giddiness, and headache more frequently.—J. H. BENNETT, *in Practitioner for May*, 1870.

Canada Medical Journal.

MONTREAL, OCTOBER, 1870.

THE CANADIAN MEDICAL ASSOCIATION.

The third Annual Meeting of this body, which took place in the City of Ottawa, on the 14th and 15th of September, and whose proceedings occupied almost the whole of our last number, may be regarded as having been decidedly successful. In point of numbers present there was a falling off, compared with any previous meeting, yet we think there will be found reasons sufficient to account for this, in the very great excitement which existed throughout the Dominion, concerning the great boat race at Lachine. This international struggle gathered thousands from every portion of the continent, and many, who otherwise would have been at the Association, were among those who witnessed the race. But if the members present were not quite equal in numbers to those of former years, yet we think we may safely say that it was a truly representative meeting. Members of the profession were present, in force, from all the large centres of Medical Instruction, while the general profession throughout Ontario and Quebec were fairly represented by delegates from a number of county Associations, and independent members of the Association. The cities of Halifax, N. S., and St. John, N. B., sent some of their ablest physicians, men who, from the first meeting in Quebec down to the present one, have shown their great interest in the objects of the Association, by their constant attendance at its meetings. The presence of the delegates from the American Medical Association, Dr. Horatio R. Storer, and Dr. Sullivan of Boston and Dr. Garrish from New York, added a pleasing feature to the meeting. Although the greater part of the two days was taken up with the discussion on the proposed Bill, there were several interesting debates which took place on two papers that were

read to the Association. One on "Veratrum Viride," by Dr. Sheriff, of Huntingdon, the other by Dr. Hingston, of Montreal, upon Synovitis. The important business of the recent meeting, however—one which was looked forward to with no little anxiety by many—was the report of the committee appointed last year at Toronto, to draft a Medical Bill for the whole Dominion. Of this committee Dr. R. Palmer Howard, of Montreal, was chairman, and that, at all events, some of its members did their duty, the Bill published *in extenso*, in our September number, bears ample evidence. In the debate which took place upon the several clauses of the Bill, which were taken into consideration, there was exhibited an unanimity as to the desirability of having one Bill for the entire Dominion, for which we were not prepared. Even although this fact alone had been asserted, we think the Association would have had good reason to congratulate itself upon its accomplishment, and the success of its Ottawa meeting. But the Association having taken such an important step, proceeded to discuss some of the details whereby it could be carried into effect, and here again there was displayed a unanimity that was almost surprising. The question of a Central Examining Board was heartily, we might say enthusiastically, carried, the opposition to it being slight. By this vote the first great principle of a Bill was emphatically endorsed by the Association, notwithstanding a very urgent appeal against it from Dr. Botsford of St. John, N. B. We have ourselves opposed this Central Board and tried to preserve for Universities the rights they have so long enjoyed, and although we hold to our opinions as hitherto expressed in the pages of this *Journal*, we at the same time honestly acknowledge that the voice of the Profession is against us.

The only portion of the proposed Bill upon which there was anything like a division among the members of the Association, was the clause giving representation in the General Council to Universities—not having medical schools connected with them. In this category stands the University of Ottawa, and Bishop's College, Lennoxville. At a first glance it might seem unfair that any University—not in any way connected with medical teaching, although possessed of the right at any time to establish medical faculties—should be given the power of sending a medical delegate to the Council. A little examination will, however, we believe, dispel any such illusion. The latter body has the superintending of the details of the preliminary as well as of the professional examinations. And as Universities would in all probability select medical men to represent them who have passed through an Arts course,—a class of men—well educated classically, and more qualified to overlook preliminary examinations—would find their way into the Medical Council. No

one will, we think, assent that the introduction of such an element would not be beneficial. On the contrary, we hold that their presence in the Council, and especially present there as members of the general profession free from any faculty or school influence, would be of incalculable good. It was, therefore, a matter of regret to us that the Convention decided by a majority of one, that none but Universities having a staff of teachers, or a Board of Examiners and regularly conferring medical degrees, should have representation. We, however, hope that a little reflection will convince many who voted nay upon this question, that they did so without having considered the subject in all its bearings. As the Bill will come up again for discussion and final adoption next year at Quebec, it is quite possible that this clause, carried by so tight a vote, may again be brought forward, when we predict for it a different result. We need not further enter upon the discussion of a few of the minor details which received the sanction of the Association, as we understand that very shortly the original Bill with the amendments passed will, as far as possible, be sent to every regular practitioner in the Dominion. It is to be hoped that it will be well studied, and that those who attend next year at Quebec, will exhibit the same spirit of candour and fairness which as a general thing characterized those present at the meeting in Ottawa.

In justice to our own feelings, we cannot close this editorial without adding one word with reference to the retiring President of the Association, the Hon. Dr. Tupper. If ever a society owed its success to the firm, courteous demeanour of its presiding officer, then certainly is the Canadian Medical Association under deep obligation to that gentleman, for we believe we simply state the truth when we say, that to him is due the success which has thus far attended the Association. After a three years' occupancy of the presidential chair, it was with regret the members, in deference to his wishes, accepted his resignation. The enthusiastic manner in which the Association passed a resolution tendering the thanks of the members to him, could not be otherwise than gratifying to his feelings. In their new President, the Hon. Dr. McNeill Parker, of Halifax, N. S., we believe a worthy successor to their late President has been found. He is a good speaker, and in parliamentary experience and rule quite *au fait*. Moreover, he has been an active worker, and present at every meeting, including its organization. But there is one point in the election of Dr. Parker which gives us great satisfaction. It shows that the members of the Association can rise above the feeling of provincial jealousy, and vote for the best man come from whence he may. We have reason to know that a few desired that the President should be taken

alternately from each Province, but the nominating Committee saw clearly the difficulty which might at any time arise in being able to secure such a person from a particular Province as the wants of the Association demanded. It was therefore determined that this first change of Presidents should test the feelings of the Convention on this matter, and as Dr. Parker was considered the most competent member after Dr. Tupper to fill the Presidential chair, although he came from the same city, he was brought forward by the Nominating Committee. We are glad to say that his unanimous election set at rest, we trust for ever, what was only hinted at, viz., alternate provincial representation.

DISTRICT OF BEDFORD MEDICAL SOCIETY.

The annual meeting of this society, for the election of officers for the ensuing year and the transaction of other business, was held at Dunham, on Wednesday, the 20th July, at one o'clock, p. m.

Dr. Chamberlin, the President, having called the members to order, the minutes of the last meeting were read and confirmed.

Several amendments were made in connection with the medical tariff for the guidance of practitioners in the Bedford District.

Dr. Stevens then read an article on the Bromide of Potassium. In addition to the authority of others, he adduced many interesting cases, occurring in his own practice, where the use of this salt medicine had been attended with the most satisfactory results. A lively discussion arose thereupon, in which all present took part, and many useful facts were elucidated and valuable suggestions offered with regard to the employment of this remedy.

On motion of Dr. Gibson, seconded by Dr. Stevens, it was resolved that the present officers of the society, viz: Dr. Chamberlin, President; Dr. Cotton, Vice-President, and Dr. Whitwell, Secretary-Treasurer, be re-elected for the ensuing year.

Drs. Chamberlin and Gibson were unanimously chosen delegates from the society to attend the annual meeting of the Canadian Medical Association to be held in Ottawa in September next.

Dr. Hamilton, by request, consented to read a paper on carbolic acid at the next meeting of the society. A vote of thanks was tendered to Dr. Stevens for his able and interesting address.

The meeting then adjourned until the second Wednesday in January next, at one o'clock, p. m., then to meet in Dunham.

THE LATE SIR JAMES Y. SIMPSON, PROFESSOR OF MIDWIFERY, UNIVERSITY OF EDINBURGH.

We present to our readers with the present number of the *Journal*, a portrait of the late Sir James Y. Simpson, Professor of Midwifery in the University of Edinburgh. A personal acquaintance with the deceased enables us to pronounce the likeness an admirable one. As we gave a short *resumé* of the leading features in his eventful life in one of our recent numbers, we will not repeat them here, but simply state that his death has been a severe loss to the Edinburgh School.

In our next number we will give a portrait of the late Mr. Syme, Professor of Clinical Surgery, Edinburgh University. As we believe many of our readers may desire to preserve portraits of both Professors Simpson and Syme, our publishers have made arrangements to have them printed on a superior kind of paper, and sold at 25 cents each. Orders sent to Dawson Brothers, with the money enclosed, will be promptly attended to.

McGILL UNIVERSITY.

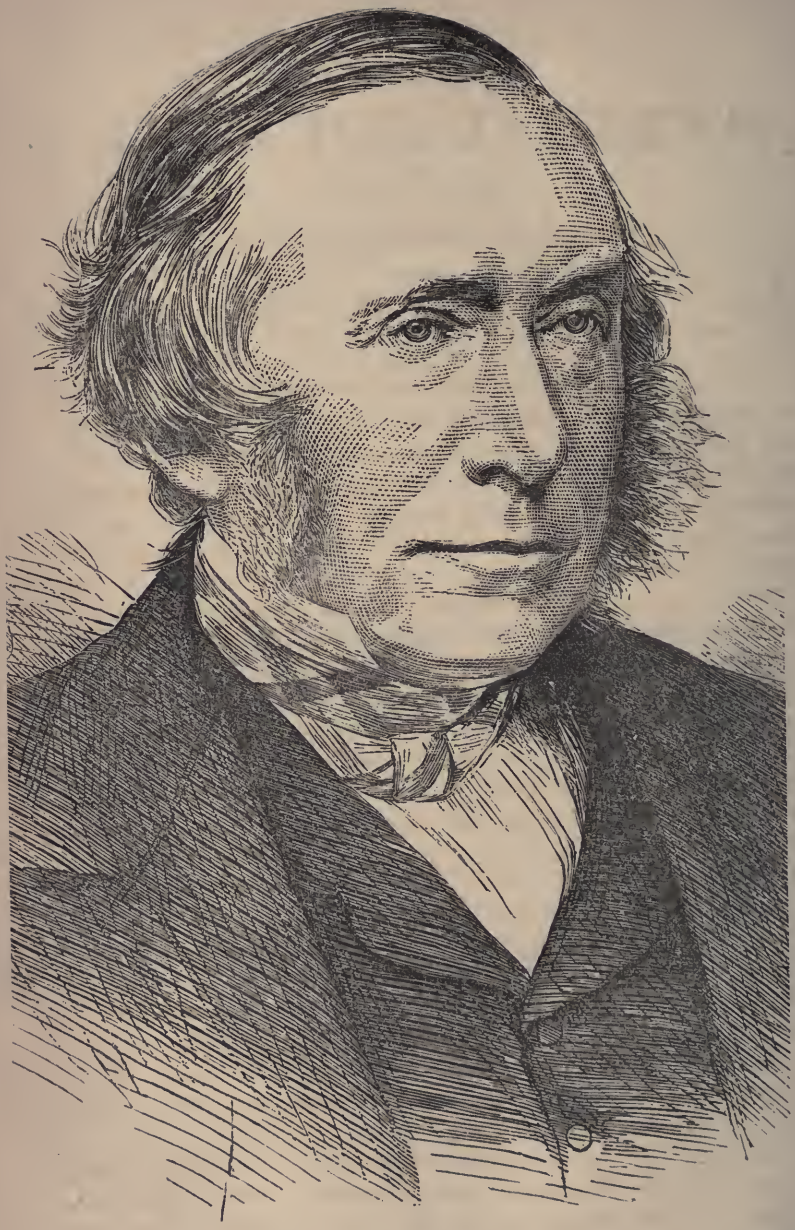
The classes in the Medical Faculty of McGill University were opened on the 4th of October, the introductory lecture being delivered by Dr. Fraser. We understand that the class is a large one—the number of first year students being more than usually numerous.

THE HON. DR. ROLPH.

It is with very deep regret that we have to announce the death of the Hon. Dr. Rolph, which took place a few days ago at Toronto. In a future number we may have occasion to refer to the conspicuous place occupied by the deceased in the political as well as medical world.

ARMY MEDICAL DEPARTMENT.

It may interest some of our readers to know that it is believed in official circles that there will be an examination in February next for admission to the Army Medical Department. There have been no admissions since October 1868, so that those who enter at the forthcoming examination will do so under comparatively favorable auspices, as regards promotion, as there will be a hiatus of more than two years between those immediately above them.



JAMES SYME, F.R.S.E., D.C.L., &c.

CANADA
MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

A Case of Reflex Paralysis. By Wm. McGeachy, M.D., Iona, Ontario.

Mrs. ——— had for some months been troubled with an ulcer situated on the anterior aspect of the lower part of the thigh. The original cause was a severe scald, of a much more extensive area than the present sore, but which had healed over with a tolerably healthy cicatrix. An abrasion received in the month of August, when alighting from a vehicle, was the immediate forerunner of the indolent ulcer, for which I was now called upon to prescribe.

From a history of the case and its treatment, I judged that a fair trial had been made of the usual stimulating procedures, and accordingly had recourse to the mechanical effects of adhesive straps, conjoined with an internal treatment of zinc and strychnia, given in pill, with extract of gentian.

At the end of ten days the surface of the sore seemed reduced to its minimum area, and, altogether, more healthy in appearance. Up to this time since my attendance began, nothing unusual occurred to pre-indicate the somewhat novel complication that was to follow, beyond a little twitching of the diseased limb, to which, I confess, I paid no attention.

September 27th.—Was called suddenly in the morning with the intelligence that something very serious was wrong, and on arrival was not a little puzzled to find complete paralysis of the lower extremities, which she discovered in attempting to withdraw one of her limbs under the bedclothes. The evening before, the part was dressed with a pledget of lint saturated in a solution of carbolic acid, and secured by bandage. This I now removed and found the ulcer quite healthy. Examined the spine carefully, but could discover nothing amiss.

Called also in the evening, as per appointment, and drew off about 18 oz. of urine with the catheter. Gave an enema of castor oil and turpentine, which came away in an hour with some fœcal matter. Paraplegia, if possible, more complete. Attempted to make her stand by the side of

the bed, but was only upbraided for cruelty. Could discover no history of hysteria in patient or family; pulse normal, but weak; tongue moist, with white fur; both pupils strangely dilated and sensitive. Bandaged the ulcer with the dressing as before. Ordered half an ounce of brandy and 30 minims of spt. ether. nit. every third hour. To discontinue the pills; to attempt to urinate during the night.

28th., Sunday.—Felt a great desire to make water during the night but could not. Gave mixture of ol. ricin., ol. tiglu, ol. terebinth., and stated I should call on my return. No motion of the bowels. Used the catheter again. To continue the mixture when the bowels move. Rubbed the spine every two hours with stimulating embrocation. Ordered to wear flannel drawers. Removed dressings from the sore, and substituted flax-seed poultice.

29th, 6 a.m.—Bowels had moved in the night. Patient much easier; can move the toes. Evening.—Voluntary control of the limbs rapidly being restored. Catheter discovered scarcely an ounce of urine, probably in consequence of the drastic purges. Mixture continued, with also quinine, one grain.

30th.—Patient had a good night's rest for the first time. Almost entirely well. Continue brandy, ether and quinine every fourth hour. Beef tea freely. Tinct. opii. enema to restrain the bowels.

31st.—Patient walking about. All dressings removed. Medicines to be continued.

October 1st.—Still continues to improve. Pricking sensation through both limbs. Made her retire to bed before night. Had a considerable discharge of a pale serum-like liquid, which patient maintains came from vaginal passages. Ordered the carbolic acid lotion and bandage, and took my leave.

3rd.—Was again summoned to the case, and again found loss of motion in both limbs. Both legs in a complete and continuous tremor, like an ague chill. Had made up my mind before this as to the nature of the case. Again removed dressings, carefully washed the sore, and pencilled with solid caustic. Ordered a poultice at bed time, and to have four grains extract of hyosciamus every fourth hour.

4th.—Patient much better. At night had violent motion of the limbs and body, inasmuch that she could with difficulty be prevented from throwing herself out of bed. These motions she asserted to be involuntary. To have 20 grains of bromide of potassium each night in some syrup. Port wine *ad libitum*.

A gradual and complete recovery was the result, without a relapse as yet.

I shall make a few remarks, but will chiefly leave the case to the consideration of the profession. Can hysteria be safely excluded as an element entering into a consideration of this case? I decidedly think so. I confess I never saw a case of reflex paraplegia, either in private practice or in the wards of an hospital, but occasionally witnessed this and similar grave affections simulated by the victim of hysteria. None of the usual remedies for hysteria were used in this case. The irritation produced by the carbolic acid, the trembling of the limbs, and their subsequent impotence, seem to form an unbroken link in the chain of evidence connecting the first-named procedure with the last result.

That it was a decided case of peraplegia no one would think of doubting. If not caused by the ulcer, by what then? There neither was nor is any diagnostic symptom of spinal disease. I might thus proceed, by the method exclusion, and shew that the evidence inevitably points to the conclusion I have already been led to. It, therefore, remains for others who may doubt those I have arrived at, to account in a rational manner for the phenomenon in question.

The use of Amalgam of Mercury and other Metals in filling Carious Teeth. By H. M. Bowker, Surgeon Dentist, Montreal.

In the January number of the Canada Medical Journal, an article of mine appeared on the dangerous practice of filling teeth with amalgam. I am impelled to write again on the subject to rebut statements and comments which have appeared in other journals.

First:—In the February number of the American Journal of *Dental Science*, published at Baltimore, the editor copied my article in full, and, in his criticisms thereon, admits the general truth of my argument, but thinks I have taken an extreme view, and believes that amalgam can be safely used in teeth which are mere shells, but never in teeth which can be saved, even with tinfoil.

Admitting, which I do not, that nothing but amalgam could save such frail teeth, it would, in my opinion, be much better to have them extracted than incur the risk of permanently injuring the constitution by the use of any kind of mercurial paste, but that is unnecessary; as it has been incontestably proved that a tooth which can be saved by such "paste" can be saved by the use of gold or tin-foil, both innocuous materials. In corroboration, the American Society of Dental Surgeons, at their Convention, 1841, declared that there is no tooth affected by caries in which gold-foil cannot be employed to render the organ serviceable. Again, the American Journal of *Dental Science* has always,

in its articles on the subject, taken a most decided and uncompromising stand against the use of amalgam for filling teeth, more especially during the time it was conducted by such able men as C. A. Harris, A. Westcott, W. H. Dewinell, S. Brown, Piggott, and E. Parmly, all of whom repudiated the use of amalgam, and those of them now living remain unchanged in their opinions on the question.

Mr. F. G. Callender, member of the Royal College of Dental Surgeons and professor at the Toronto Dental College, admits that he has for a long time past discarded the use of amalgam, unless in exceptional cases, and he agrees in the main with me as to its unfitnesss, but he denies that the College encourages its use. Mr. Chittenden, also a member of the same College, says:—"That the application of mercurial paste should be limited to teeth so frail, or not sufficiently fixed in the socket to admit of any but the gentlest handling." Is not this theory of limitation an admitted recognition of the baneful effects of amalgam? If for mechanical considerations, amalgam may be used in one tooth, regardless of consequences, why not in another? There can be neither honesty nor consistency in the use of a compound, which the operator believes to be pernicious, for the sake of overcoming a mechanical difficulty. Better by far extraction of the tooth, than the absorption of poison into the system. A surgeon may as well, rather than sacrifice a limb, let the patient die from gangrene and mortification.

In the face of these eminent American authorities, Mr. W. G. Beers, co-editor of the *Canada Dental Journal*, not only defends the use of amalgam, but has the hardihood to state that I am guilty of using a compound which I condemn as malpractice. To the latter assertion, I conscientiously affirm that never in my twenty years practice have I used mercurial paste. Mr. W. G. Beers, with the same regard for truth, denies my assertion that the American Society of Dental Surgeons unanimously, in 1845, carried a resolution condemnatory of the use of amalgam. I think the following extracts from the proceedings of the Society, dated New York, August 9, 1845, will be sufficient refutation even for Mr. W. G. Beers.

Firstly, it is stated, "that the objects of this Society are the mutual improvement of its members and the protection of themselves and the public against the quackery and empiricisms which are the disgrace of the profession."

"The Society does not presume in this communication to speak of more than a single one of those base deceptions by which individuals calling themselves dentists are imposing on the community. We allude to the practice of filling decayed teeth with amalgam, known under the name

of *royal succedaneum, lithodion, mineral paste, admantine cement, alabaster cement, diamond cement*, and other improper substances, by the use of which thousands of valuable teeth are annually destroyed, and innumerable evils result to the community at large which can never be repaired."

"*The Society has unanimously declared that the use of the above named amalgams for stopping teeth is malpractice, destructive to the safety of the teeth, injurious to the healthy condition of the mouth, and not unfrequently exciting and promoting bad effects on the constitution frequently disposed to the injurious action of mercury, which invariably constitutes an ingredient in all these compounds. Every member of this Society who shall hereafter use this substance under any of these imposing and deceptive names, or under any other name, is, by that act, expelled from the institution.*"

By order of the Society,

E. PARMLY, *President.**

AMOS WESTCOTT, *Recording Secretary.*

Mr. W. G. Beers has the additional temerity to say that the above resolution was finally rescinded. In refutation of this other gratuitous statement, Mr. W. G. Beers has only to look at page 71, New Series of the American Journal, and he will find these words:

"That it is now seven years since the Society *unanimously* resolved that it regards the use of *mineral paste* for stopping carious teeth as *malpractice*."

"In 1841, with the like unanimity, it had declared that amalgams were hurtful to the teeth and every part of the mouth, and that gold could be used in every case where any form of filling fairly promised advantage, and at subsequent annual meetings it reiterated these sentiments, till finally, in 1845, it resolved upon the expulsion of non-conformists, and in 1847 actually inflicted the penalty upon some of its members."†

"Dentistry now, like the practice of medicine, may safely trust its general character to the common caution and prudence which legitimate responsibility ordinarily requires. While, therefore, we would intimate no change of sentiment as to the subject-matter of the protest, believing, as we do, the substitution of amalgam for gold to be *malpractice*, but would still most earnestly advise that total abstinence from the practice which we have heretofore *enforced*."

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* Vol. 6, page 82. American Journal of Dental Science.

† Vol. 1, page 71.

Can language be stronger? The use of amalgam is absolutely and unanimously condemned! So much for Mr. W. G. Beers.

The Virginian Society of Surgeon Dentists resolved:—"That the use of all pastes and cements, of which *mercury is a part*, entirely unfit for and highly objectionable as for filling carious teeth, and further, that the use of them in dental practice is *empirical* and is hereby declared to be MALPRACTICE."*

The Mississippi Valley Association of Dental Surgeons also resolved:—"That we consider the use of all mineral pastes in the plugging of the teeth as *unprofessional* and *highly injurious*, and that we will neither use it nor countenance its use by others.†

I respectfully ask Mr. W. G. Beers—Are the physical conditions of the human frame different in 1870 from what they were in 1847? If the malpractice of amalgam was determined in 1847, what circumstances can possibly make its use sound and good practice in 1870? Is the Canadian College of Dental Surgeons prepared to say that the members of their kindred colleges in the United States are ignorant empirics?

Here is another mis-statement made by Mr. W. G. Beers. He says: "I am qualified to assure you that neither college nor societies have once, directly or indirectly, discussed the subject"—meaning that of amalgam. In the *Canada Dental Journal*, Vol. I., page 110, are to be found questions put to the students on amalgam. Mr. W. G. Beers labours hard to convince the public that neither the college nor the dental societies encourage the use of amalgam, yet with a marvellous consistency, he, being secretary of one of the dental societies and co-editor of the *Canadian Dental Journal*, not only advocates but vindicates the use of amalgam, and more, advertises it. His brother editor, Mr. Chittenden of Hamilton, upon the principal that there are two sides to every question, speaking of tin-foil, says:—"*that as a cheap filling, it is infinitely preferable to amalgam, in that it leaves no sting behind.*"

To discover a truth and separate it from a falsehood is surely an occupation worthy of the best intellect and not at all unworthy of the best heart, so Mr. W. G. Beers has exercised his intellect to disprove my statements and to throw doubts upon my professional practice. He gives an array of names who are advocates of amalgam. Are they practitioners of any high repute? The standard writers on dental surgery are all but unanimous in the condemnation of the use of amalgam—"their names are legion." There is hardly any

* Vol. 6, page 157. A. J. of D. S.
† Vol. 5, page 119. A. J. of D. S.

necessity for giving them, they are so well known to every student in dental surgery.

Dr. Evans of Paris, who has a world-wide reputation, and is considered the highest authority in dental surgery at the present time in Europe, says :—

"*I cannot, however, refrain from stating it as my deliberate opinion that all operations in which amalgams are employed are merely temporary in their nature, and that any tooth that can be filled in a proper manner with gold can be effectually and permanently saved only by this means.*"*

The above opinion he published to the world after having announced the discovery of a compound of mercury with other metals, exempt—as he supposed—from all the objections of other amalgams. The learned Doctor, after having patiently and faithfully tried his system and found it malpractice, had the honesty and manliness to disavow amalgams. Dr. Townsend of Philadelphia, who ranked very high in his profession, and the inventor of a nostrum called "Townsend's amalgam," finding the use of it injurious, publicly recanted nearly every advantage he claimed for it. He said that in cases where he most relied on it, and expected to find the best results, it *entirely failed.*†

Professor Taft, of the Ohio College of Dental Surgery and the author of a work on "Operative Dentistry," which is admitted by all American dentists to be the best work extant on the subject (1868) closes an article condemnatory of amalgam paste in these words:—

"So great and so numerous are the objections to this material that it is but little used by reliable operators. Its adaptability is the main prop on which are based the arguments in its favour : it is easily applied, and consolidates with considerable hardness. It is affirmed also, teeth which cannot be saved with anything else may be filled with this and made more valuable. This, however, is not true since the employment of the adhesive property of gold ; which property renders this metal equal in adaptability to amalgam."

Dr. Watt in his "Chemical Essays," (1868), says :—"Amalgam plugs are usually large, as none but quacks insert them into large cavities. We have frequently seen two, three, or four large plugs in same mouth, and in one mouth we saw *seventeen* large and small. For illustration, let us suppose a case in which eighty grains of amalgam cement are inserted—this is not an extraordinary case. Four molars, with a small plug in each, would give that amount. The forty grains of

* Vol. 10, page 132. A. J. of D. S.

† This nostrum is also advertised in the Canada Journal of Dental Science.

mercury (even though inert in the metallic state, which is not proved, however,) would make two drachms of the blue mass, or forty officinal blue pills, or about fifty-four grains of corrosive sublimate, or would yield forty-seven grains of calomel, or nearly forty-two grains of black oxyd of mercury. Now, no scientific man could be surprised at witnessing constitutional effects from the presence of such quantities of any one of these drugs. But the amalgam advocates may, and do object, that these compounds are not liable to be formed in the mouth, but with the next breath, they go on to lament the 'blackness,' 'discoloration,' 'coloration,' &c., through all the changes, ascribing it all the while to *oxydation*, thus acknowledging that the last named condition almost invariably results. And it is objected, too, that if formed at all, these drugs are formed, and therefore introduced so slowly and gradually that they can produce no perceptible effects. But such objectors manifest an ignorance of scientific truth hardly excusable in this enlightened age of the profession. The slow and gradual introduction is the important point to be considered. It is here that the danger lies. When rapidly introduced, the system is aroused and rebels, and much of the poison is ejected. This slow introduction is nothing else than "nurturing up wrath against the day of wrath,' as in the case of the man that wore the metal in a leathern bag. * The poison could only pass infinitessimally into the system; yet in six years it did its work. And those who wear amalgam plugs in their mouth for six years, and especially for 'fifteen years,' have no security that their fate will not be similar. When we read of old practitioners, whose neighbours, as well as themselves, have all along been using amalgams, and who yet assert that they have never seen a case of ptyalism or other constitutional disease arising from their use, we must be excused if we look upon them "with considerable doubt, as to the value of their judgment, or opinions as reliable diagnosticians."

"One cannot believe that amalgam fillings can produce ptyalism, because this is produced through the general system whether the mercury is used externally or internally. Now it is not probable that any one believes that amalgam plugs can produce ptyalism by mere local action."

"Another is a disbeliever because 'it is well known that mercury uncombined is inert'—which is merely an assertion—and because 'equally so must it be when combined with silver or tin,' which is a mere assumption. And he is further confirmed in his position from the fact that the proto-chloride of mercury (calomel) and deuto-chloride of mercury (cor-

* Dr. Watt refers to a fatal case, attended with salivation, brought on by wearing a leathern bag containing a few drachms of liquid mercury.

rosive sublimate) are formed from sulphate of mercury and muriate of soda, triturated and sublimated. As this process cannot be very well carried on in the mouth, it is hardly supposable that they are elaborated to any extent."

"Well, there is chemistry for you. Are we to infer that chlorine and mercury can combine only under the circumstances here detailed? When it is objected to the use of amalgams that there is danger of mercurial poisonings, the answer is that abscess, exostosis, and necrosis occur in mouths where no mercury is used, as if these were what is meant by *constitutional* effects of mercury. And where a genuine case of poisoning is presented, it is referred to some other cause than mercury, because many cases of "irritated gums looking terribly enough has yielded to proper constitutional and local treatment," as if irritated gums were all the effect of ptyalism, and as if acute ptyalism was not amenable to treatment. Any scientific dentist would infer that there is greater danger of mercurialization from this source when the fluids of the mouth are acid than when they are alkaline. If a case of ptyalism presented itself, and the amalgam plugs were allowed to remain, a part of the proper treatment would be to secure an alkaline state of the saliva. And he would infer that the disease was most likely the result of either the oxydation or chloridation of mercury; and as its compounds with sulphur are far less poisonous than its oxyds or chlorides, and are nearly insoluble, he would take such measures as would secure its sulphidation. We make these remarks merely to remind the reader that even ptyalism is amenable to proper constitutional treatment; and hence, yielding to treatment is no evidence that the disease is not ptyalism. If the corrosion of mercury is stopped for the time, the disease will usually exhaust itself, and recovery will take place without direct treatment. Many advocates of amalgam suggest that many of the cases taken for the bad effects of mercury are the result of "mechanical irritation" which would have resulted just as soon from bad gold filling. Now every one who understands the subject knows that *mechanical* irritation never did and never will produce results very much like mercurial ptyalism."

"It is well known that ptyalism may be, and is produced by other causes than mercury. This is what is called "spontaneous ptyalism," and it is cordially admitted that in a large majority of cases in which amalgams are fused, no observable constitutional effects result. But it will not do on this account to deny the fact of mercurial poisoning by amalgam plugs. The same warrant is afforded for the denial of mercurialization from any source. In a large majority of cases in which mercurials are administered, no poisoning is observable. Indeed, it

would be no more than consistent for some of our disbelieving brethren to write an article to prove that both mercury and its compounds are inert. They would be at no loss for arguments stronger than those they are in the habit of using in discussing the "amalgam question." Why, a patient has taken over fifty drachms of calomel in less than so many hours "without the least sensible effect!" Take the position, and *stick* to it, that calomel never produces ptyalism. And if it should occur while the patient is taking the drug, be firm and *consistent*, by claiming that it was about to occur any way, and has resulted simply from "mechanical irritation."

Mr. W. G. Beers and the advocates of amalgam allude to an old compound used years ago, as if mercury had not the same effect upon the constitution now as it had years ago. They do not deny that there is mercury in the improved compound of amalgam now used, nor do they tell us in what the new improvement consists. We pause to know in what way their amalgam is improved? According to Dr. Watt, amalgams used to be made of mercury and silver; their use has long since become unpopular, and is regarded as a *black spot* on our professional escutcheon. They are simply rendered respectable and perfect now by the addition of another *base metal.*

Mr. W. G. Beers says:—"We might give up filling teeth altogether if we were to abstain from every material that may be abused. With equal propriety it might be urged against gold that because when highly oxydized it becomes a powerful medicinal agent, therefore it should not be used for filling teeth."

The weakness of such an argument needs no pointing out, for the objection to amalgam and the preference for gold are equally based on special causes. As long as I have been a member of the profession, I was not aware that pure gold would become highly oxydized when used as plugs in the teeth, or would have any medicinal effect on the constitution.

Gold is the best and most innocuous material that can be used for filling teeth, and as such was never known to have any deleterious effect upon the constitution. With mineral paste or amalgam how different! There are some constitutions so susceptible to the action of mercury that even one half-grain in a tooth will cause severe neuralgic pains, so that however carefully manipulated and vastly improved the amalgam now used may be, the effect is frequently such as to enforce the immediate removal of the poisonous compound from the mouth, which being done, all the unfavourable symptoms at once disappear. The difference is obvious, in the use of gold the patient does not incur any risk of injur-

of his constitution, whereas, in the case where amalgam is used he does occur that risk. Scarcely a week passes that I do not witness the evil consequences resulting from the employment of an amalgam on the constitution of patients, many of whom are willing to give me their testimony with regard to their sufferings and to the mode and extent of their relief.

Mr. W. G. Beers says:—All amalgamists say the same, and I may remark that they are only a repetition of the stale arguments of twenty or thirty years since." He also says that " those who use amalgam for front teeth, or for small cavities are quacks," therefore, the inference to be drawn is that those who use it by wholesale in large cavities are justified in so doing. Assuredly if it saves frail teeth with large cavities without any detriment to the constitution, what would it not do in the case of firm teeth with small cavities? Surely Mr. W. G. Beers trifles with the intelligence of his readers when he says " the possibility of amalgam being abused, is no more reasonable argument against its use than an argument that no preparation of arsenic, morphine, &c., should be used because they are infallible poisons. If it were considered necessary to administer arsenic, morphia, &c., it would be for the purpose of arresting a serious malady, or for the preservation of life, but in the case of the mercurial poisons the object would be to save a tooth; therefore, there is a difference in the two applications, the one saving a life, the other a tooth.

An operator who uses foil of any kind would soon manifest his lack of skill by the sudden disappearance of the fillings, therefore his imposition on the public would be as short as the duration of his operations, at the same time his incapacity would have no injurious effect upon the health of his patient. The operator who uses amalgam has only to put it in the cavity of the tooth in a plastic state, where it soon becomes hard and remains in the cavity until decay takes place around the plug, but all the time it is there the patient has in his mouth a poison of slow, steady, but certain malignity; a poison, even in its insoluble combination, capable of producing grave and lasting disturbances of health.

What says Dr. Slack, Professor of Chemistry in the Medical College of Ohio, about amalgam? His answer is conclusive, he says:—" The cellular tissue of the tooth is filled with minute arteries, veins, absorbents, and nerves; leaving out of view galvanic action, what must be the effect from the oxydation of the inserted amalgam? Will not the deleterious vile compound be absorbed? Can a substance certainly be of any advantage to nerve, artery, veins, blood, &c.? The poison will be thrown into circulation, and though it may move slowly at first, it will, unless

arrested, certainly perform its work of destruction. Health must be prostrated and an early grave will be the portion of the victim."*

Dr. Westcott, an authority,—he having filled the Professorial Chairs of Operative and Mechanical Dentistry, in the Dental Colleges of Baltimore and New York—is one of the original and most indefatigable writers against all preparations of mercury for filling teeth. What does he say? His utterances are not uncertain. What language can be more decisive? He, in the most emphatic manner, says:—"No man who has so little self respect as to use this amalgam to any considerable extent, will refuse to stoop to any species of quackery which will contribute to his pocket. . . . As we weaken public confidence in this deception and enlighten the public mind respecting it, we not only blot out this particular species of quackery, but to a corresponding extent weaken the power of those charlatans to practice this or any other deceit by pointing to them as the men who have, at least in one way, imposed upon the community and filled their teeth with no other motive than filling their own pockets, and without any regard to the consequences."†

Feeling so strongly as I do on the subject, and having been wantonly assailed for my first communication against the dangerous practice of filling teeth with amalgam, I cannot refrain from making another quotation, and it shall be the last. It is from the valedictory address of Dr. Parmly, of New York, delivered to the graduates of the Baltimore College of Dental Surgery. The Doctor says:—"A distin uished Parisian, a gentleman and scholar, Count de D ——, now in New York, remarked to me a few days ago that he had discovered during his residence in this country that there are two classes of dentists, one very high, the other very low, and that the latter live upon the reputation of the former—the latter chiefly consist of 'amalgamists.' There may be honest and truthful men among them, but if there be, they differ very much from those champions of amalgam whom I have encountered and already proved to be without either professional or moral honesty. I can bring the same proof with regard to others if necessity shall require it. I am willing, however, that this necessity shall never call me to the unpleasant task, but I will not shrink from the task when the conduct of knaves and charlatans shall render that task a duty.

"To the American public I owe many obligations for the confidence my fellow-citizens have reposed in my professional practice, and I intend to discharge at least a part of my obligations by exposing the tricks of

* Page 63, Vol. 6. A. J. of D. S.

† Page 178, Vol. 8. A. J. of D. S.

mountebanks and the impudence of knaves. Of all the quackeries of our profession, or of those who live only to disgrace it, I regard mercurial paste most notorious, execrable, and base, as used in this country, and should a part of my life be spent in exposing the evils of such nostrums, I shall not regard it as utterly lost to my race, nor to my country."*

Severe Metrorrhagia from ulceration of the os and cervix uteri. Reported by Dr. T. G. RODDICK, Assistant House Surgeon to the Montreal General Hospital.

C. H., æt. 27, was admitted into the Montreal General Hospital, June 21st, under care of Dr. MacCallum, suffering from severe metrorrhagia consequent on extensive ulceration of the os and cervix uteri.

She gave a history of having been troubled, more or less, for the past, two years with leucorrhœa, which, however, never affected her health materially. In February last she contracted a severe cold while menstruating, and, in consequence, the flow continued incessantly for over two weeks. After this time she was seldom or never regular, but menstruated every ten days or a fortnight with considerable pain and alarming prostration. In the month of April she consulted Dr. MacCallum, who put her under the usual treatment in such cases, and her condition improved for some time though the hæmorrhage continued to recur. When admitted she was almost in a state of chlorosis, her countenance being pasty-looking and of an almost greenish-yellow hue; her feet swollen from time to time; fatigue on the slightest exertion; loss of appetite; sleeplessness; constant malaise. A uterine examination was made by Dr. MacCallum with the hope of finding some state of the organ to account for the metrorrhagia and other symptoms, when the following conditions were noticed:—The entire face of the os uteri was involved in an ulcer of the size of a quarter dollar piece or even larger, and about the sixteenth of an inch across; granulations very vascular, large at the entrance, and extending some distance into the cervix; thick tenaceous mucus extended from the canal of the cervix and could with difficulty be removed; the whole surface of the ulcer was covered with a thick layer of pus; little or no pain in the sore when touched. The solid stick of argent. nit. was effectually applied, and the patient was ordered in addition an injection containing, zinc. sulph. gr. v. to aquæ ℥ j., with the following mixture to be taken internally:—℞ Pot: Brom. ʒ ii; Ferri Ammon. Cit: ʒ i; Aquæ ℥ vi a table spoonful three times a day.

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* Vol. 1, New Series, page 465.

June 25th.—Uterus again examined. Ulcer much cleaner and less vascular; cervical mucus not so abundant; bleeding markedly checked. Application of caustic as before. General condition of patient improving.

June 30th.—Ulcer tending to heal; much cleaner than when last examined; vascularity of granulations decreasing. Applied a saturated solution of chromic acid. Health of patient improving. Has not lost any blood since last examined; is more cheerful and not so easily fatigued.

July 15th.—The ulcer has been examined on two occasions since last noted, and treated with chromic acid. It is now healed to the size of a sixpenny piece, healthy-looking and clean. It was dressed to-day with a solution of one to ten of carbolic acid. The granulations within the cervix bleed on the slightest provocation, but there has been no spontaneous flow of blood for the past three weeks. The general health of the patient is on the mend, and her appetite is good.

July 24.—The ulcer has healed to within a couple of lines round the os uteri. She has had a slight attack of hæmorrhage since last examination, which cannot be accounted for, as everything seems to be progressing most favourably. With a view to ascertain if there was any growth or polypus within the womb, Dr. MacCallum dilated the cervix with sponge tents. The patient's health has not visibly suffered by the late attack, though she is in depressed spirits from her long detention in hospital. The same preparation of carbolic acid has been applied.

July 28th.—The sponge tent has dilated the os and cervix uteri so that the parts are distinctly visible, but nothing abnormal can be discovered, excepting the vascular condition of the mucus membrane, and its tendency to bleed on the merest touch. The external ulcer is nearly healed with an occasional application of the acid lotion, which is likewise applied to the neck of the womb as far as can be reached.

August 17th.—She has had two slight hæmorrhages within the last fortnight, but they have not appeared to affect her general health in any way. The ulcer has entirely healed and the patient's health is capital.

October 28th.—She left the hospital shortly after last note, and reports herself as perfectly recovered, and as strong almost as she ever was. Her appearance is that of complete health.

HOSPITAL REPORTS.

MONTREAL GENERAL HOSPITAL.

CASES IN MEDICINE AND SURGERY UNDER THE CARE OF DR. D. C. MACCALLUM.

Case 21.—Diffuse Cellulitis of the entire Left Arm, with Sloughing of the Skin, and severe Hæmorrhage from the Opening up of a Vein. Reported by MR. T. G. JOHNSTON.

James P., aged 40, Scotch, paper maker, was admitted into the Montreal General Hospital, August 1st, 1870; is a man of good general conformation, and temperate. For the last five years has been perfectly healthy; but previous to that time suffered from an attack of small-pox, and several attacks of intermittent fever.

About a month ago, while out fishing, he fell and struck his left elbow on the corner of a stone, abrading a small surface the size of a pea, immediately over the olecranon process. For the time he experienced no more pain or discomfort from it than would be expected from an injury of the sort, going to his work as usual the next day. In three days, however, the sore began to suppurate, and the arm became painful, hot and swollen. He, in the meantime, dressed it with a piece of rag taken from a miscellaneous pile in the paper mill. Was ordered by his medical attendant to apply lead lotion, which he did for a week, but with no good result, as the inflammation extended to the subcutaneous cellular tissue, which it destroyed completely—suppurating extensively and discharging through two openings; one about two inches above the external condyle, and the other on the ulxar aspect of the fore arm, about its middle.

Was then ordered to discontinue the lotion and apply poultices; he did so, and felt much better until about a week ago, when one of the veins of the arm being involved in the ulceration, gave way, and caused considerable hæmorrhage, which has continued almost ever since.

Appearance on admission: Is very anæmic-looking from loss of blood; is very weak; has been confined to bed at home for some time, and there is a slight appearance of a bed sore over the sacrum. *Arm* about twice its normal size; considerable impairment of capillary circulation of the surface; very cold; pulse 84, and much less distinct than on the sound side; great numbness; large open ulcer, from sloughing of the skin, about 4½ in. long and 1½ in breadth over anterior surface of the biceps; cannot use either extensors or flexors; about a pint of clotted blood was squeezed out of two small openings in the skin immediately over the joint.

August 2nd—Seen by Dr. MacCallum, who enlarged openings on uluar side of the arm by a free incision, allowing free exit of a large quantity of pus and clotted blood; and injected, lotio acid carbol 1 to 30; ordered quin sulph gr j. three times a day; half diet; also, two pints beef tea and one pint porter.

August 3rd—Injection continued; free discharge of sanious pus; temperature of arm increased; bandaged loosely from fingers to middle of fore arm; ordered tinct ferri mur m. x. in conjunction with each dose of the quinine.

August 7th—Is generally improved; sleeps well; and is gaining strength; dependent opening made in upper arm to allow exit of matter which has collected; injection of fore arm stopped as discharge from it has ceased and it seems disposed to heal; complains of bed sore which has formed; dressed with ordinary red wash.

August 12th—Still improving; lower arm almost healed; flexion and extension almost perfect; pronation and supination not quite so good; there is also a tendency of biceps to contraction; cannot extend the arm perfectly.

August 19th—Caught cold on the 15th; had a chill followed by fever; stopped iron and quinine; and gave liq. amon. acet ʒ ij. every three hours instead; passed a poor night; arm very painful; re-appearance of the discharge; to inject again with carbolic acid lotion; erysipelas of head and neck set in; to stop liq. amon. acet and give tr. ferri mur : m xxx. every four hours. Also brandy ʒ vi.

August 30th—Has had several attacks of erysipelas of head and neck; very slight and easily stopped by the iron; general condition improving; appetite good; arm looking well and no discharge of any account; allowed all the nourishment he can take.

September 10th—Arm improved greatly; slight attack of conjunctivitis from exposure to cold air; to continue iron mixture and have his clothes.

September 16th—Doing well; pulse natural and good colour in his face; complains of slight stiffness in legs from long confinement to bed; bed sore has completely healed.

October 11th—Discharged cured, with the exception of a small portion of the original ulcer over the biceps in the middle arm, which, however, tends to heal; his general health is excellent; the use of the entire limb nearly restored; and he hopes to resume his work in a week. The severe effects following the infliction of such a slight injury as the foregoing, were, no doubt, due to the innoculation of virus of some sort, contained in the rag with which he dressed his arm, particularly as he was at the time in the best of health; and had previously suffered injuries

far more severe, which, when properly treated, healed without any bad results. It might be stated that the attack of small pox from which he suffered, was due to infection from old rags necessarily handled in his occupation.

Case 22.—*Ulcers and Fissure of the Anus, treated by incision.* Reported by Mr. Thos. G. Johnston.

Mary K., aged 30, Irish, the mother of three children, was admitted into the Montreal General Hospital, under Dr. MacCallum, on the 18th of August, 1870. She has been previously healthy, but since her last pregnancy (about six months ago), has been in a very bad state of health. At present she has an anxious, careworn look, and complains of intolerable pain in the anus on going to stool. On examination a fissure was found on the right side of the rectum having its external termination concealed by a small red papilla-like elevation. On further examination three ulcers were discovered occupying the whole of the right side, and which were excessively painful. The two side ones were circular in shape, while the central and largest one was more or less elliptical. The whole were touched with nitrate of silver, and an astringent and anodyne suppository ordered.

Aug. 22nd.—Does not feel at all relieved, passes very bad nights, and pain during each motion is excruciating. An operation was accordingly proposed, and after the administration of chloroform, the bottom of each ulcer was divided by a slight incision about an eighth of an inch in depth, a pledget of oiled lint was then introduced, and the patient left quiet. Previous to the operation the bowels were well opened, and for a day or two after were kept quiet. A suppository containing opium was ordered each night, with an occasional dose of castor oil to keep the bowels gently open. Under this treatment she rapidly recovered, and to day, September 12th, a solution of nitrate of silver (20 grs to 1 ounce) was applied, ulcers granulating well.

Sept. 18th.—Solution of nitrate of silver again applied.

October 5th.—Discharged. Cured.

Case 23.—*Extensive Acute Abscess of the Abdominal Walls.* Reported by Mr. Kenneth L. Gunsolus.

C. J., aged 46, widow, mother of six children, was admitted into the Montreal General Hospital on the 5th August, 1870. She is a stout woman of dark complexion, and with the exception of a severe attack

of dysentery, from which she had just recovered, she has always been very healthy; she never received a blow over the side, or got an injury of any kind, nor has she had any chill or rigors. She attributed her ailment to the kidneys, and did not seem to be aware of the large swelling or tumor on her left side when she entered the Hospital.

August 6th.—She has a very high fever; pulse 128, and there is great heat and dryness of the skin; tongue coated, a circumscribed flush over the malar eminences; urine diminished and high coloured, but discovered nothing abnormal by the usual tests; bowels are constipated; the temperature in the axilla is 104½. She has a large tumor situated on the left side between the floating ribs and crest of the ileum, and extending a little on the crest. In front it extends to a line drawn perpendicularly upwards from the anterior superior spinous process of the ileum, and behind it extends to the margin of the rector spinæ muscle; it is quite prominent, tense and resisting, exceedingly sensitive to the touch; could discern no fluctuation. Dr. MacCallum ordered a large linseed meal poultice to be put on, and pulv. doveri. gr. 5 every three hours; she was also given one pint of chicken broth, beside milk diet.

Aug. 7th.—Much the same as yesterday; pulse 118; did not sleep any last night, but slept a little during the day; tumor very painful and tender; could distinguish no fluctuation; no rigors nor chills; she has headache, but no head symptoms; has sickness of the stomach; the temperature has fallen, being now 104.

August 8th.—Pulse 120; slept very little last night on account of the pain; has not slept any during the day. Dr. MacCallum discovered distinct deep seated fluctuation in the tumor to-day for the first time; tumor is softer than yesterday, but very sensitive, no chills; temperature of surface 104.

August 9th.—Pulse 112; she was put under the influence of chloroform, and Dr. MacCallum made a free opening into the tumor, when there came away ten ounces of creamy laudable pus, slightly streaked with blood, and which relieved her almost instantly. A tent of carbolic oil (1 to 40) was then inserted into the wound, and the linseed poultice again applied. The abscess was situated in the muscular walls; temperature in axilla 102½.

August 10th.—Pulse 100; very little discharge from the abscess; she is generally improved since the abscess was opened and she says that she feels relieved; the tenderness is much lessened.

August 11th.—Pulse 90; perspiring constantly; skin cool and moist; tongue cleaning; bowels regular; vomited once after taking her powder this morning; the flush over the malar eminences has disappeared; the

temperature of the surface is nearly normal, and she rests well at night.

Dr. MacCallum ordered carbolic acid dressing to the wound (1 part carbolic acid to 20 parts of water) to be put on with lint and covered with oiled silk.

August 12th.—Condition about the same as yesterday, very little discharge, and no sign of further formation of pus; was injected with carbolic acid (1 part acid to 20 of water) and afterwards dressed with the lotion same strength; was ordered the following: ℞ quinin sulph. grs. xij. acidi sulph. arom ʒj. aquæ ad. ℥ vj. a table spoonful three times a day.

August 15th.—Discharge less, the wound is looking healthier and the abscess is becoming more circumscribed; injection of carbolic acid continued; temperature of surface 97½.

August 19th.—Sleeps well; no pain; very little discharge, was ordered a compress over the abscess; beef steak and 4 oz. wine.

August 24th.—Well. Discharge ceased and opening closed.

Case 24.—*Extensive Anthrax, involving the whole of the posterior surface of the neck.* Reported by Mr. JOHN A. REID.

Patrick W., æt. 68, labourer, was admitted into the Montreal General Hospital, on September 5th, 1870, suffering from a very large carbuncle.

He states that about three weeks previous to his entering the hospital he suffered great pain in the neck, caused, as he says by a small boil, which made all the muscles of the back of the neck very stiff.

On admission the patient had a very large anthrax on the back of the neck, extending from the posterior occipital protruberance to the vertebra prominens in a vertical position, and latterly from the mastoid process of the temporal bone on one side to the same part on the other. The surface of the anthrax was studded with numerous holes, from which a quantity of unhealthy pus exuded. On seeing the patient Dr. MacCallum immediately placed him under the influence of chloroform, and made a deep crucial incision from the extreme limits of the diseased part down to the fascia; a poultice of linseed meal was ordered to be put on the part; he was ordered full diet, and 6 oz whisky, and as constitutional treatment the following:—℞. quin. sulph. gr j. tinct. ferri. mur. m. xv. aquæ. ad. ʒ ii. to be taken three times daily.

Sept. 7th.—Suffered great pain, and complained of not having slept during the night, the linseed meal poultice was ordered to be changed and to put one of yeast in its place, and a sleeping draught of chloral hydrat grs. xx at bed time.

Sept. 8th.—Patient passed a much more comfortable night; the application of poultices was ordered to be continued, and the chloral hydrat to be given at night. This treatment was continued without much interruption for three consecutive days, the patient also taking the quinine and iron as before.

Sept. 12th.—The slough seemed to be coming away so slowly, that Dr. MacCallum thought it advisable to apply caustic potash to the part; and the patient being placed partly under the influence of chloroform, the caustic was thoroughly applied and large poultices of linseed meal were ordered to be frequently applied, and the part to be well cleansed with warm water.

On the 14th, a great deal of the slough had come away, but patient was suffering severe pain, and the pulse at the wrist was small and quick; a draught of chloral hydrat xx grs. was given to him at bed time, and as extra he had a pint and a half of ale with full diet and his allowance of whiskey; a local application of carbolic ointment spread on the poultice was applied: the patient gradually got better; the sloughs came away, and the wound was soon studded with healthy granulations.

On the 20th September, he was discharged nearly well, and was ordered to come as an out door patient, to have his neck dressed. I saw the patient sometime after in the out-door room, the wound on back of the neck was quite healed, and the patient only complained of stiffness in the muscles of his neck.

Case 25.—*Typhoid Fever with Bronchitic complication, Delirium, &c.*
Reported by Mr. Wm. G. Ross.

James G., aged 14, emigrant, admitted 20th August, 1870.

Previous History—Has been ill two weeks; during the first he had severe and continuous diarrhœa; during the second his bowels were constipated; he was hot and feverish, and felt very giddy when he attempted to walk.

Symptoms on admission. Skin very hot and dry; cheeks flushed; pupils dilated; seven or eight bright rose spots on the chest and abdomen; tongue thickly furred; complains of great thirst. Dr. MacCallum ordered mist. potas. chlor. (M. G. H.) ʒ ij. every four hours; milk diet and one pint of milk extra. Morning. Temperature 103½; pulse 114. Evening: temperature 104; pulse 112.

August 21st.—The abdominal walls have become tense; the bowels are confined and give out a tympanitic note on percussion, and there are well marked gurgling and tenderness on pressure in the right iliac fossa;

the tongue is covered with a thick, yellowish fur; in addition to the chlorate of potash mixture he was given the following: ℞ spts. terebinth ʒj. ov. vitell. j. spts. æther chlor. ʒjss. aquæ. ad- ℥viij. a tablespoonful three times a day. Morning: temperature 103, pulse 106.

August 22nd.—Complains of a slight dry cough; the inspiration is wheezing, the chest everywhere resonant. On applying the ear, inspiration whistling, expiration has a prolonged sonorous ronchus; vesicular murmur nowhere heard; no expectoration. A turpentine stupe was ordered to be applied to the chest once a day. Morning temperature 103; pulse 106; respirations 45; evening temperature 104; pulse 106.

August 23rd, 24th, 25th.—General condition the same as on the 22nd; the bowels are constipated, there having been two small and hard motions; large eruption of spots on the back; the temperature has gradu ally risen half a degree morning and evening, so that on the night of the 25th it was 104½, the pulse 104, and the respirations 50. Examination of the urine: cloudy appearance cleared by a drop of nitric acid; acid-reaction; chlorides deficient; no albumen or uro-hematine.

August 26th—A few moist râles heard in different situations; tongue thickly furred in the centre; tip and edges red; bowels very tympanitic; gurgling plainly heard. Morning temperature 104; pulse 108; respirations 44; evening temperature 105; pulse 114; respiration 44.

August 27th.—Cough very troublesome with expectoration of frothy mucus; moist râles heard all over the chest; a few fresh spots on the abdomen; lips dry; sordes on the teeth and centre of the tongue, the tip and edges of which are red, the papillæ appearing larger; sleeps a great deal; tossing about and muttering; when awake is quite delirious; a pint of chicken broth was added to his diet. Morning: temperature 103; pulse 112; respiration 54. Evening temperature 104½; pulse 120.

28th, 29th, 30th.—During these three days the râles became moister; the expectoration greater; the delirium was constantly present, also the muttering and restlessness during sleep; the tongue was dry, with a thick brown fur in the centre; the lips brown and fissured; the bowels constipated, one hard stool having been passed after the lapse of a week; tympanitis, gurgling and tenderness on pressure always marked; the pupils continue dilated; a few fresh spots appeared. To mist. potas. chlor. was added spts. æth. chlor. and ipecac; he was ordered 4 ozs. of claret daily. The morning temperature ranged between 103½ and 103; the evening between 104 and 103½; the pulse from 116 to 102, and the respirations from 42 to 60.

31 Aug., 1st and 2nd Sept.—The râles are very moist; the tongue is dry but gradually clearing off; the bowels confined; the face appears a little

brighter; he is still delirious; the morning temperature was between 102 and 102½; the evening between 102½ and 103; the pulse from 92 to 106 and the respirations from 44 to 50. Examination of urine: clear, normal colour, acid reaction; chlorides deficient; uro-hematine in small quantity; no albumen, sp. gr. 1011.

From 3rd to 9th Sept.—During this week the râles rapidly decreased, so that on the 9th none could anywhere be detected; the vesicular murmur re-appeared, the inspiration being harsh: the stupes discontinued; the tongue became cleaner every day, but was sometimes dry, sometimes moist, and fissures began to appear in it extending obliquely outwards from the centre; it finally became of a deep red colour; he had two stools of a clay colour, natural in consistence and quantity; no fresh spots; skin desquamating in very small scales; the delirium is quieter and he sleeps well, without muttering and moving about; tympanitis, gurgling and tenderness on pressure being no longer perceptible, the mist. terebinth. is stopped. The morning temperature was from 99½ to 102½; the evening from 103 to 104½, 104½ being the degree for the last two nights; the pulse varied greatly being between 80 and 106; the respirations between 28 and 50.

From 10th to 28th, the day of his discharge, the boy kept improving, without the slightest tendency to relapse. On the night of the 10th he had a rigor followed by profuse sweating, being the first time the skin had acted sensibly since his admission; it afterwards became dry and continued so; the tongue was usually moist and clean, but sometimes slightly furred; less frequently dry; his bowels were moved every three days, the motion being of natural form and consistence, and at last of a normal colour; on the 12th the chlorate of potash mixture was stopped and he was put on quinine sulph gr. j. three times a day. His diet was changed as he improved, rice pudding, eggs and mutton chop being added; the variation in the temperature was slight, although the heat kept up to 100; the pulse remained very quick, being usually 112; the respirations dwindled from 50 to 20; the pupils were dilated throughout. He became coherent by degrees and walked about the hospital five days before his discharge, although his understanding was by no means clear.

Case 26.—*Typhoid Fever, with Bronchitic complication, Epistaxis, restless delirium, &c.* Reported by Mr. HENRY WRIGHT.

Mrs. C., *æt.* 22, admitted into the Montreal General Hospital, on Sunday, August 28th, 1870. Ill three weeks previous to admittance, and during that time, has been under proper medical treatment. At the

commencement of the attack suffered from headache, and has been up to this time unable long to retain anything on her stomach.

Sunday, 11 a.m.—Countenance flushed; pupils dilated; skin hot and dry; tongue parched and cracked in the centre, moist at the edges typhoid spots distinct on the back, chest and abdomen: tenderness in the iliac region of the abdomen: has had diarrhœa for some time; stools watery and rather dark. Is also suffering from slight attack of bronchitis; rales heard over the upper part of the chest; the lower and back part of the right lung is congested; temperature 103; pulse 128; respiration 38. Dr. MacCallum ordered turpentine stupes to the chest, and prescribed ℞, potas. chlor. grs. v.; acid hydrochl. dil. m x.: æther chlor. m x. vin. ipecac. m v., to be taken every four hours; milk diet with arrowroot and barley water. 6 p.m. Temperature 102½; pulse 128; respiration 38; bowels moved twice through the day.

August 29th, 10.30 a.m.—Temprature 104; pulse 128; respiration 38; tongue cleaner and moister; had three motions through the night; can distinguish no râles this morning; breathing simply exaggerated. 7·30 p.m. Temperature 102½; pulse 136; respiration 38; two motions to day.

August 30th, 10·30 a.m.—Temperature 103½; pulse 136; respiration 38; 7·30 p. m., temperature 103: pulse 126; respiration 34; found her quite delirious this evening, restless and attempting to get out of bed; skin slightly moist: respiration same as yesterday.

August 31st, 10·30.—Temperature 103½; pulse 132; respiration 42; had severe epistaxis yesterday and this morning; delirium through the night: tongue and skin moist: one motion from the bowels this morning.

August 31st, 6 p.m.—Temperature 102½; pulse 130; respiration 42: delirious through the day; slight epistaxis; no motion from the bowels; face pale; pulse weak and fluttering; heart sounds rapid, almost the 1st as short as the 2nd: grs. iij. of plmub. acet. in solution were ordered to be taken every four hours; other medicine stopped; beef tea and claret as extras.

Sept. 1st, 10 a.m.—Temperature 99; pulse 140 and very feeble; respiration 38; still delirious; walked about the room during the night; pupils dilated, and her appearance is wild and restless; had another attack of epistaxis through the night; skin cooler and moister; ordered ℥ iv. of sherry instead of claret. Examined her urine to day and found it scanty and high colored, sp. gr. 1030, contained a considerable amount of albumen; chlorides normal. 7·30 p.m. Temperature 103; pulse 144; had a short sleep this afternoon and seems a little better this evening: tongue moist and cleaner: skin also moist.

Sept. 2nd, 10 a.m.—Temperature 102; pulse 148 and flickering; respiration 44; delirious through the night, walked about the ward; face pale; tongue glazed; skin moist. This morning, is very restless and picks the bed clothes; stopped the plumb. acet. and prescribed ℞. acid. sulph. arom. m. x. tinct valer. ammon. ʒ ss. to be taken every fourth hour. 7 p.m. Being asleep was not disturbed.

Sept. 3rd, 11 a.m.—Temperature 103½; pulse 140 and fuller; respiration 44; looks a little better this morning, slept well through the night; pupils not so much dilated; tongue glazed and fissured; abdomen tympanitic; ordered turpentine stupes: 7·30 p.m. Temperature 103½ pulse 140; respiration 42; skin very hot and dry: is taking sherry ℥ vi. and claret ℥ iv. daily.

Sept. 4th, 10 a.m.—Temperature 103½; pulse 130; respiration 38; tongue dry, not so much glazed as yesterday; slept pretty well through the night; still delirious: 7 p.m. Temperature 103½; pulse 130; respiration 42; bowels moved six times during the day.

Sept. 5th, 10 a.m.—Temperature 102; pulse 136; respiration 42; tongue dry and fissured at the tip, glazed at the back; surface cool and moist; was very restless through the night, making frequent attempts to get up. 7 p.m. Temperature 102½; pulse 134; respiration 48.

Sept 6th, 10 a.m.—Temperature 103½; pulse 140 and full; respiration 44; rested a little last night; tongue has lost its glazed appearance and is moist at the tip and edges; still delirious: bowels moved once this morning; face pale, and skin moist, brandy ordered instead of wine. 7·30 p.m. Temperature 100½; pulse 144; respiration 50; surface warm and moist.

Sept. 7th, 10 a.m.—Temperature 103; pulse 144; respiration 35; slept about two hours last night, poultices applied to the abdomen. 8 p.m. Temperature 101½; pulse 130 and weak; respiration 40; slept a good deal through the day; tongue and skin dry.

Sept. 8th, 10 a.m.—Temperature 101½; pulse 138, stronger and fuller; respiration 32; better this morning; passed a pretty good night; tongue moist at the edge, general appearance improved. 7·30 p.m. Temperature 100½; pulse 134; respiration 34; looks better, tongue moister.

Sept. 9th, 10 a.m.—Temperature 100; pulse 125; respiration 34; slept about four hours last night; tongue cleaner and moister. 6 p.m. Temperature 100; pulse 125; respiration 34.

Sept. 10th, 11 a.m.—Temperature 100; pulse 126; respiration 38; one motion from her bowels this morning; coughs a little this morning; bronchial râles can again be heard over the chest. 6 p.m. Temperature 102¼, pulse 136, respiration 40; slept through the day.

Sept. 11th, 10 a.m.—Temperature 100; pulse 126; respiration 36; tongue moister; very restless.

Sept. 12th, 10 a.m.—Temperature 98½; pulse 120; respiration 28; slept well; tongue much moister; general appearance greatly improved: 7 p.m. Temperature 101; pulse 124; respiration 36.

Sept. 13th—Temperature 99½; pulse 116; respiration 32; tongue moist; slept well. 6 p.m. Temperature 101½; pulse 126; respiration 34.

Sept. 14th, 10 a.m.—Temperature 98; pulse 128; respiration 36; tongue almost natural: no bronchitic râles heard over the chest; breathing exaggerated: 6 p.m. Temperature 99; pulse 126; respiration 32, and very tranquil.

Sept. 15th, 10 a.m.—Temperature 97¾; pulse 104; respiration 24; greatly improved.

Sept. 16th, 10 a.m. Temperature 98½; pulse 110; respiration 23; tongue moist and clean: 7 p.m. Temperature 98; pulse 112; respiration 24.

Sept. 17th, 10 a.m.—Temperature 98¼; pulse 106; respiration 20; bowels regular; tongue continues clean: 6 p.m. Temperature 97½; pulse 100; respiration 24.

Sept. 18th—Temperature 98; pulse 100; respiration 24; tongue clean.

Sept. 19th, 10 a.m.—Temperature 97¼; pulse 90; respiration 20; looks well; tongue clean; is gaining strength rapidly; appetite improving; is able to sit up for a couple of hours every day; pulse is full and steady; the respiration is tranquil and the temperature natural.

Sept. 24—Is up and dressed, looks well, is taking ½ gr. doses of quinine every four hours; on half diet.

During the diarrhœa examined the stools twice; did not succeed in finding any mucus shreads.

Case 27.—*Typhoid Fever.* Reported by Mr. Zotique Hebert.

Ann C., æt. 17, was admitted into the Montreal General Hospital, under Dr. MacCallum, on the 29th August, 1870. She had been ill for about a fortnight previous to admission, suffering from severe headache, chilliness, drowsiness, lassitude, &c. These were followed in a week by profuse perspirations, pains in the back and limbs, restlessness at night, hot skin, dry tongue, great thirst and slight cough.

On admission the above symptoms were noticeable, together with a number of rose-colored, slightly-raised spots over the abdomen and back of chest, slight uneasiness and pain on pressure over the right iliac fossa, increased thirst, tongue coated, red at tip and edge, lips and teeth covered

with sordes, pulse 120, respiration 33, temperature 105½. No diarrhœa or epistaxis.

August 30th, 8 o'clock, a. m.—Pulse 118, respiration 32, temperature 105, bowels unopened. Ordered the following:—Potas. chlor. ʒ i., acid hydrochl. ʒ ij., ether chlor. ʒ ij., vin ipecac. ʒ i., aquæ ad ℥ vj., a tablespoonful every fourth hour. Diet of milk and beef tea.

6 p. m.—Pulse 120, temperature 106, condition otherwise unaltered.

August 31st, 7.30 a. m.—Pulse 108, temperature 103½, respiration 29; feels better, coughs less, tongue cleaner, bowels still unmoved.

6 p. m.—Pulse 116, temp. 104½.

September 1st, 7.30 a. m.—Pulse 104, temp. 103½, resp. 24; tongue moister, slept well, gurgling in iliac fossa decreased, no epistaxis, no stool.

6 p. m.—Pulse 108, temp. 105.

September 2nd, 7.30 a. m.—Pulse 110, temp. 103; slept indifferently, cough better, no pain, looks more cheerful.

7 p. m.—Pulse 110, temp. 104; tongue more coated than in the morning, slight pain in iliac fossa on pressure, no stool, less cough.

September 3rd, 7.45 a. m.—Pulse 98, temp. 100½; tongue cleaner, cough prevented sleep, great sense of lassitude, bowels opened thrice during night, colour of stools characteristic, of a yellow-ochre hue. Ordered pulv. cretæ co. c. opio gr. x every 4 hours.

8 p. m.—Pulse 100, temp. 103½; bowels unopened during the day, considerable cough and headache, tongue red but moist, pains in back and limbs.

September 4, 8 a. m.—Pulse 100, temp. 101; no stool during the night, not so much cough, no headache, tongue rather drier, some pain in the back. Omit powders.

7 p. m.—Pulse 110, temp. 103; pain over liver and in right shoulder; vomited in the forenoon and afternoon, but kept down the beef tea. Is better at present.

September 5, 7.30 a. m.—Pulse 98, temp. 101; tongue dry in centre but moist at sides; no diarrhœa, but cough continues.

7 p. m.—Pulse 103, temp. 104; tongue moister, no headache, cough troublesome, not much thirst, spots nearly all away and fading fast, slight pain still over the iliac fossa.

Sept. 6, 8 a. m.—Pulse 88, temp. 100; no pain, no headache, no motion from bowels.

7.30 p. m.—Pulse 108, temp. 103.

September 7, 8 a. m.—Pulse 84, temp. 98½; slept well, tongue moist, coughs less, no headache, bowels still confined.

8 p. m.—Pulse 90, temp. 102½; patient feels still better.

September 8, noon.—Pulse 114, temp. 101; not so well, cough worse, a few bronchitic sounds heard over both lungs, tongue dry and red, did not sleep so well during the night.

7 p. m.—Pulse 108, temp. 104½; experienced two or three slight chills during the day, tingling pain and gurgling in right iliac fossa.

September 9th, 8 a. m.—Pulse 100, temp. 100½; tongue coated, bowels confined, lips dry, slept well; no change in treatment.

September 12th.—No change noticeable for the past three days. Pulse to-day is 98, temp. 101½; patient still weak; tongue cleaning. In the evening there was the usual exacerbation of temperature, being at 7 p. m., 102.

September 15th.—Pulse and temperature normal for the past two days, with an occasional exacerbation towards evening. The treatment from the first has been unchanged till to-day. Dr. MacCullum substituted for the fever mixture, Quin. sulph. gr. ij. ter in die.

September 18th.—Patient has been allowed to sit up for a short time during the day. Bowels are now regularly moved; pulse on an average 84; temperature from 88 to 99½ in the evening; tongue almost clean; patient still weak and easily fatigued; sleeps well at night, and is allowed small quantities of solid food.

September 24th.—Patient is gaining strength and appetite rapidly. She sits up now nearly all day without fatigue, and expresses herself anxious to leave the hospital. An order is given for her discharge.

Case 28.—*Typhoid Fever.* Reported by Mr. T. D. Reed.

E. N., male, aged 12, admitted September 1st. Had been complaining of lassitude and malaise for more than a week; no rigors. On admission the following were noted, dilated pupils; iliac gurgling; several rose spots on back; temperature 102 Fah; pulse 92; belly somewhat tympanitic; had passed a peasoup stool during the day. Dr. MacCallum put him on chlorate of potas. fever mixture; milk diet and a pint of beef-tea.

September 3rd.—Temperature 101; respiration 24; pulse 76.

September 4th.—Morning temperature 99·6; pulse 80; respiration 24; two stools since last visit; rested well; abdomen not tender; tongue red at tip and edges, creamy fur in centre; appetite good; no headache; thirsty. Evening temperature 103; pulse 109; respiration 32.

September 5th.—Morning temperature 100·5; pulse 80; respiration 32; feels better; rested well last night; stool; urine acid, sp. gr. 1017;

chlorides diminished; to get one pint of beef tea extra. Evening temperature 102·6; pulse 100; respiration 24.

September 6th.—Morning temperature 99·6; pulse 92; respirations 28; had a good night; one stool; abdomen tense; tongue moist; Evening temperature 102; pulse 108; respiration 32.

September 7th.—Morning temperature 99·5; pulse 84; respiration 28. Evening temperature 101; pulse 100; respiration 28.

September 8th.—Morning temperature 99; pulse 84; respiration 24; rested well; one stool; improvement in every respect, except tensemus of abdomen; spots fading. Evening temperature 102·6; pulse 100; respiration 28.

September 9th—Morning temperature 98·3; pulse 76; respirations 28; slept well; two stools; perspiring. Evening temperature 102·3; pulse 100; respiration 28.

September 10.—Morning temperature 98·5; pulse 72; respiration 28; slept well; one stool; skin moist. Evening temperature 100·7; pulse 76; respiration 28.

September 11th.—Morning temperature 98; pulse 70; respiration 24; slept well; one stool. Evening temperature 99·5; pulse 72; respiration 28; urine sp. gr 1020.

September 12.—Morning temperature 98·5; pulse 70; respiration 28. Evening temperature 99·8; pulse 88; respiration 28.

September 13.—Morning temperature 98; pulse 84; respirations 24; Evening temperature 99·2; pulse 92; respiration 20; one stool; walks around the ward.

September 14th.—Morning temperature 98·2; pulse 72; respiration 28. Evening temperature 99·5; pulse 88; respiration 24.

September 15th.—Morning temperature 98·5; pulse 96; respiration 24. Evening temperature 99·5; pulse 84; respiration 24; feels quite well.

Case 29.—*Typhoid Fever with Roseolous Rash.* Reported by Mr. J. A. Reid.

James McKeogh, aged 21, native of Ireland, was admitted into the Montreal General Hospital, under Dr. MacCallum, on the 4th of August, 1870. When first seen symptoms indicated fever, with quick pulse; great heat of skin; mouth parched; great thirst; pupils dilated; face flushed; tongue dry and red; pulse 92; temperature 103; slight gurgling in right iliac fossa; a few rose coloured spots over abdomen and back of chest.

History.—Patient is an emigrant, arrived in this country some weeks ago. Four days before admission was attacked with headache, vertigo,

languor, pains in the limbs, &c., but had evidently not been well for some days previous. This condition continued up to his admission. The spots characteristic of typhoid fever, immediately decided the diagnosis.

Treatment.—He was put on the following mixture: potas. chlor. 3 ij. acid hydrochl. 3 j. vin ipecac 3 ij. syr. zingib ℥ j. aquæ ad ℥ vj., a tablespoonful every four hours; also milk diet and beef tea.

August 6th.—Patient slept well during night; skin hot and perspiring; bowels constipated; pulse 90; temperature 101; treatment continued.

August 7.—Pulse 120; temperature 102½; did not sleep well; slight cough; tongue coated on posterior part and around the edges, tip red and dry; bowels still constipated; rash still apparent; to continue treatment.

August 8th.—Patient looks better; pulse 100; temperature 102; treatment as before.

August 9th.—Did not sleep so well, restless; perspires freely; complains of slight pain in bowels, for which he was ordered a turpentine stupe; pulse 96; temperature 100.

August 10th.—Patient has a peculiar vacant look; wandering through the night; very drowsy; pulse 92; temperature 101½; there was a peculiar mottling of the skin, which resembled very much the eruption of measles, rash quite disappeared; sudamina present; treatment as before.

August 11th.—Looks more cheerful; the whole chest and neck and arms are covered with sudamina; pulse 84; temperature 100; slept well; tongue coated and dry; great thirst.

August 12th.—Much better; pulse 80; temperature 100; tongue cleaning.

August 13th.—Very much better; pronounced convalescent; temperature 100; pulse 76; tongue moist and cleaning from the edges.

August 14th.—Still improving; ordered one pint beef tea additional:

August 15th.—Temperature 98; pulse 80; tongue moist and clean; looks very much better; appetite improving, &c.

August 16th.—The same as yesterday: was up for a short time; temperature normal; pulse 86; due no doubt to the excitement consequent on getting up.

August 17th.—Up to day, quite cheerful.

August 28th.—From this date up to August 29th, the day of his discharge from the hospital, patient has been rapidly improving, he has been up every day, and occasionally takes a walk on the gallery in rear of the building. In this case of typhoid fever, patient had no diarrhœa from the very first; at one time only his bowels threatened to

be loose, but this was obviated by a few grains of pulv. cretæ. co c. opio.; the constipation was never treated but disappeared as patient improved.

August 29th.—Patient was discharged from the hospital in apparent good health, although a little weak, the necessary sequence of typhoid fever.

Reviews and Notices of Books.

Chemistry, General, Medical and Pharmaceutical, including the Chemistry of the British Pharmacopœia. By JOHN ATTFIELD, Ph.D., F.C.S.; London: John Van Voorst, Paternoster Row, 1869. Montreal: Evans, Mercer & Co.

The above is the title of a book received from Messrs. Evans, Mercer & Co., which has been published by Dr. Attfield, to supply a want of the medical practitioner, the pharmaceutist and the general student in chemistry; it is well written, and in every way fulfils the intention of the author. It embraces the new system of nomenclature which it explains in a manner easily comprehended by any one with a little attention and thought. It is supplied with the tables of Fregenius, which are expressed in a short intelligible form, wherein the reactions may be seen at a glance, also the decompositions and chemical changes which occur in the various preparations are copiously illustrated with diagrams and equations; it gives both synthetical and analytical reactions, and at the end of each chapter is a series of questions and exercises by answering which any one cannot fail to obtain a good knowledge of the subject of which it treats. It gives an excellent section to volumetric analysis. In the appendices are tables for the testing of impurities in the preparations of the British pharmacopœia and of saturation of acids and alkalis, also of specific gravities and percentages of acid and alkalis in solution and of alcohol, with lists of apparatus and reagents required in chemical analysis.

There is a section devoted to toxicology and another on morbid urine; illustrated with drawings of microscopic appearances and urinary calculus with the methods of examination; there is also a copious index, so that it is, and we can strongly recommend it as, a most complete manual of chemistry, alike useful to the physician and pharmaceutist.

Surgery.

THE DIAGNOSIS OF ANEURISM.

A clinical lecture on this subject, delivered by Mr. Paget, F.R.S., is given in the *British Medical Journal.*

In speaking of the diagnosis of abdominal aneurisms, Mr. Paget said that the difficulty in these cases was twofold; for, *first*, there were many pulsating tumors not aneurisms, and, *secondly*, aneurisms were occasionally met with which, at the time of examination, did not pulsate. In the case under consideration, the second source of error did not interfere, for the tumour pulsated strongly. The pulsating tumours from which aneurism was to be distinguished, were arranged under the heads of *medullary cancer, arterial vascular tumors, tumors growing from bone,* and *enlarged lymphatic glands,* or any other tumour seated upon or around a large artery; and the following points were insisted upon as furnishing, collectively or singly, the means for arriving at a correct conclusion. The *character* of the pulsation: the pulsation of an aneurism was described as "firm, full, and strong," while that produced by any of the other pulsating tumors was said to be weak and soft. Mr. Paget laid great stress on this difference, and considered it a most important aid to diagnosis. The *direction* of the pulsation: the "expanding pulsation" of an aneurism was to be carefully distinguished from the merely "forward push or throb" communicated to the fingers by a tumor seated on an artery; if a tumor, such as a mass of enlarged glands, however, *surrounded* an arterial trunk, Mr. Paget considered that it might be quite impossible to determine whether an aneurism existed or not, for the pulsation in such a case would be truly expanding in all directions. *Pain* of a "rending" character, and coming on in paroxysms, was mentioned as a valuable sign of aneurism, and probably denoted the occurrence of rapid increase in size. The existence of a *loud rasping bruit* over the tumor and along the artery above and below was said to be a symptom of some value when present, although its absence, as in the patient under consideration, by no means negatived the existence of aneurism, for a soft *bruit* was heard in many cases of vascular tumor.

Mr. Paget alluded to another class of cases in which the diagnosis of abdominal aneurism was sometimes made, and in which there was not only no aneurism, but no tumor of any kind. In some persons, a large artery, generally the abdominal aorta, pulsated very strongly; and it was this strong pulsation of a healthy vessel that was mistaken for aneurism. It occurred, Mr. Paget observed, chiefly in hysterical women, or nervous

men; sometimes in association with pains in the back, which render the resemblance to aneurism still closer; or in persons in whom the bodies of the lumbar vertebræ were unusually prominent, the head of the pancreas enlarged, or the colon distended; and, lastly, a certain number of cases were found to be connected with incessant nausea and vomiting in nervous people—a case being mentioned of a woman who was supposed by several observers to be the subject of abdominal aneurism. She was suffering from excessive and continued sea-sickness, and, in fact, died of exhaustion from this cause; and Mr. Paget had an opportunity of confirming his previous opinion, that no aneurism existed. The absence of the lateral or expanding pulsation in these cases of excessive arterial pulsation was mentioned and insisted on. The lecturer alluded to one case in which a phantom tumor of the rectus abdominis muscle was superadded to a pulsating aorta. In this instance, the diagnosis was at length made by placing the patient under chloroform, when the tumor disappeared completely.

Mr. Paget added that the same state of excessive pulsation was sometimes noticed in other arteries, especially the subclavian and the carotid. If the patient happened to possess a cervical rib, over which the pulsation subclavian passed, as in a case lately under Mr. Paget's care, the resemblance to aneurism might be very close. The simulation of carotid aneurism was said to be most deceptive when the internal carotid was elongated and tortuous in old persons, and when the naturally somewhat bulbous condition of the lower part of this vessel was more than usually marked.

Medicine.

STRYCHNIA IN FATTY DEGENERATION OF THE HEART.

By J. Waring-Curran, L.K. & Q.C.P.I., L.R.C.S.I., &c.

During the summer months cases of heart disease appear more frequently and impart the impression that affections of this important organ, by their greater prevalence and the urgency of their symptoms at particular times, are influenced or controlled by the state of the atmosphere in a great measure. In the district in which I reside patients who laboured under fatty degeneration seemed to suffer in a very marked degree during the months of July and August of last year. The majority of those patients whose malady I successfully battled against by a treatment to be presently explained, passed through the winter remarkably well, and did not evince any return of the distressing symp-

toms so characteristic of this form of heart disease until the end of June, Wednesday the twenty-second being one of the hottest days since the hot period of last July. In treating cases of fatty heart accompanied by all the pathognomic symptoms of the disease, I have hitherto experienced much uncertainty, and, in many instances, vexatious disappointment. My attention was first accidentally directed to the great value of strychnia as a therapeutic agent in this malady by my prescribing it for a lady who suffered from a non-inflammatory affection of the spinal cord, and who, at the same time, possessed a fatty heart. Under the action of a mixture whose chief components were liquor strychnia and iodide of ammonium—a drug I have elsewhere shown to be more powerful in its effect, and more strikingly efficacious than the iodide of potassium—I was struck with the effect produced upon the heart, and the rapid manner in which the organ appeared to recover itself after a couple of weeks treatment. I was strongly tempted to push my experiments further, and during the hot months of last summer I had ample opportunity of so doing, and of thoroughly satisfying myself that the strychnia produced a more marked and more beneficial effect than on any other drug hitherto prescribed by me. Under its influence I noticed patients rally and obtain quiet sleep, who dreaded lying on the back, and I observed severe forms of dyspnœa pass off, and sharp attacks of angina subside from its use. The preparation I invariably used, and continue to employ, was the liquor strychnia. I commenced with four grain doses equivalent to the one-thirtieth of a grain, steadily increasing it until I gave what was equal to one-tenth of a grain, together with two grain doses of the iodide of ammonium, a small quantity of spirits of chloroform and camphor julep as a vehicle. In some cases I was forced to forego the administration of the drug (owing to the supervention of muscular twitchings, but, very curious to mark, the twitchings commenced about the pericardial region, and in one instance confined themselves to the left arm), and substitute the citrate of iron and ammonia for a few days instead. I also recommend the iodide of ammonium to be freely rubbed in over the heart in the form of cerate. Should there be fainting attacks I advise small quantities of brandy or sal volatile, but I have ever remarked, once the powerfully stimulating effects upon the muscular system of the strychnine manifests itself, that syncope and cardiac distress pass off. Some authors tell us that strychnine produces paralysis of the heart: an over dose of the drug may have such an effect; but my experience is, that, by its operation on the whole system through the medium of the spinal motor nerves, it produces a powerful tonic effect in certain debilitated conditions of the system, and that in no disease

is this more readily appreciable than in fatty degeneration of the heart, wherein it acts very powerfully in giving tone to, and increasing in a marked manner, the muscular contraction of this organ. My object in combining with the strychnia the iodide of ammonium was that it might act as an alterative and absorbent.—*Dublin Medical Press and Circular.*

Midwifery.

Injection of Solution of Perchloride of Iron in Post Partum Hemorrhage. By Wm. Roe, M.D., F.R.C.S.I., Assistant Master, Coombe Lying-in Hospital.

Mr. President,—I wish briefly to bring before the Obstetrical Society the treatment of post partum hemorrhage by "Injection of a solution of perchloride of iron into the cavity of the uterus." I do not, however, intend to enter into the literature of the subject (which is as yet rather limited), by detailing the various arguments which have been brought forward both in favour of and against this practice. This will be found ably discussed in Dr. Barns' "Lectures on Obstetric Operations."

The importance of the subject is, I trust, sufficient apology for occupying the time of this Society; for every obstetric practitioner knows that there is no more anxious time than that of attending a case where we even dread post partum hemorrhage, not to speak of the reality of its occurrence. I will now lay before the Society the short notes of the three cases in which I have adopted this practice, and where I believe it has been the means of saving human life. It was not tried until other means had been found insufficient, and the lives of the patients appeared to be standing in the balance, and where, I believe, the loss of another ounce of blood would have been sufficient to bring down the beam.

Case I.—Ann Coleman, aged thirty-five, fourth pregnancy, was delivered on the 18th January, 1870. She had a good labor, the first stage lasting four hours, and the second stage two hours. After the birth of the child, profuse hemorrhage set in. The pupil in charge of the case sent immediately to the Hospital where I happened to be, and lost no time in seeing her. She was then pulseless, and the hemorrhage still going on. Stimulants were at once administered, and the placenta, which was morbidly adherent, was removed; the hemorrhage still went on, the usual remedies, cold water, &c., not having any effect in controlling it. I then, seeing it a case of life or death, determined to try the perchloride of iron (which I had never before seen used), and having at hand a concentrated solution of the salt in glycerine, I diluted it with about four

parts of water, and injected about half a pint of the fluid into the cavity of the uterus, and was gratified to find that the hemorrhage immediately ceased. Not another drop of blood was lost. Although the contraction was not all that could be desired, because the uterus kept alternately contracting and relaxing, the vessels, however, were sealed, for she lost no more blood. She remained in a very doubtful condition for some time, the pulse being scarcely perceptible for six hours after the removal of the placenta, beef-tea and stimulants being freely administered at short intervals.

She was now seen by Drs. Kidd and M'Donnell, with a view of trying transfusion; but as there was some slight evidence of her rallying, they thought it better to wait, at all events.

I will not tire you with the daily notes; but in eight hours after the removal of the placenta she commenced steadily to improve, and has since made a good recovery, being now quite convalescent.

I may mention that in March, 1867, this patient was the subject of a similar hemorrhage, from which she made a very slow recovery, but nothing unusual occurred during her pregnancy.

Case II.—Mary Walshe, aged thirty-three, was taken ill in her tenth confinement on the 21st March, 1870, and was delivered of twins, both male, at the full term, after a labour of about four hours, half an hour elapsing between the births. The first was a breech, the second a head presentation. Immediately after the birth of the second child, profuse hemorrhage set in, which quickly reduced the patient's strength. Stimulants and ergot were administered, but the hemorrhage continued, and the uterus showed no disposition to contract (the usual means being had recourse to). The placenta was now removed together with a quantity of coagula, and a solution of perchloride of iron injected into the cavity of the uterus. The hemorrhage immediately ceased, although the uterine contraction was by no means firm or persistent. This was, however, followed by a most alarming degree of collapse, from which recovery seemed all but hopeless. Beef-tea and stimulants were freely administered, and in a short time her condition began to improve, and she obtained some sleep. On the two following days there was some slight abdominal tenderness, which was relieved by turpentine stupes. In about a week afterwards she complained of pain, soreness, and slight swelling of the right leg, which, however, subsided under the use of hot fomentations, &c., and she has since made a good recovery.

Case III.—Anne Ivers, aged thirty, in her eighth pregnancy, 62, Lower Clanbrassil-street. The pupils were called to see this patient at two o'clock on the morning of the 2nd of May; she was in charge of a

nurse, and had been delivered of a still-born child before their arrival. The placenta was retained, and alarming hemorrhage going on. I was sent for, and on my arrival found the flooding profuse, the patient pulseless and cold, the temperature being only 94⅗. I ordered some brandy while the solution of the perchloride of iron was preparing. The placenta was morbidly adherent, and on its removal I injected a solution of ½ oz. of perchloride of iron in one pint of water into the cavity of the uterus, in the usual way, which appeared to check the bleeding for some time. However, as the hemorrhage returned, and the patient appeared to be all but gone, I determined to try a stronger solution, and accordingly injected half a pint of a solution double the strength of that I had previously used. It acted like magic. There was no more bleeding. The uterus contracted firmly, the contraction being permanent.

As soon as I felt sure I had a genuine contraction, I had her well bound, applying a small compress over the fundus, and ordered her 15 grs. of ergot every two hours, with half an ounce of brandy, and beef-tea *ad libitum*.

She progressed favorably, the temperature rising one hour after the removal of the placenta to 96⅕.

She took plenty of beef-tea and milk for some days, and is now convalescent.

I have endeavored to give, simply and accurately, the facts of the cases as they occurred. I may, however, mention that I used in the first two cases, a concentrated solution of the perchloride of iron in glycerine, diluted with four parts of water, simply because I had it at hand, and there being no time to lose; but I have since thought the glycerine acted beneficially, by its antiseptic properties upon the decomposing coagulæ, as there was very little fetor in the lochial discharges which followed.

In the third case I used the perchloride of iron diluted with water only, and the fetor was much more remarkable.—*Dublin Quarterly Journal.*

August, 1870.

A CASE OF RUPTURE OF THE UTERUS.

By Thomas F. Moses, M.D., of Glendale, Ohio.

On the 27th of February I was called to attend in labour Mary P. V., a German woman of small, almost dwarfish stature. An examination disclosed a breech presentation, and as the labour was proceeding normally and was likely to be tedious, I went away to return after a few hours. On my arrival in the evening the pains were very frequent and violent,

and there was a constant escape of meconium. The os was fully dilated, and the breech firmly impacted in the pelvis. The woman showed no signs of exhaustion, and the presenting part continued to advance slowly, so interference was not deemed necessary. I was particularly struck with the violence of the pains. All at once, during a pain, he woman uttered a sharp, terrible cry, and complained of intense pain over the lower part of the abdomen. The presenting part immediately receded, and it was evident that rupture of the uterus had occurred. A state approaching syncope supervening, I did not immediately deliver the child, and the friends of the patient sent for a priest, thinking her dying, which opinion I shared. After receiving the last offices at the hands of the priest she revived a little, and requested me to relieve her, if possible, from her agony. I stated to her the small probability of her recovering, and proceeded at once to deliver, passing my hand through the rent in the anterior wall of the womb, and finding the feet in the abdominal cavity I brought them down separately, and soon completed the delivery. Only the lower part of the body of the child had passed into the abdominal cavity. The rent extended from the fundus quite through the os, and communicated with the bladder. After accomplishing the delivery, I introduced my hand again into the womb to make sure that no loop of intestine was entangled in it, and at the same time removed a large clot.

The child, which was a finely-formed boy of more than 12 pounds weight, was of course dead. My only idea now was to make the poor woman as comfortable as possible during the remaining hours of her life, and I administered at once hydrate of chloral in solution, 30 grains, leaving a weaker solution to be given at intervals, in order that its influence might be kept up. Next day found the abdomen enormously distended and tympanitic; pulse 130, and the face pinched and expressive of great exhaustion. Continued the chloral and ordered turpentine stupes over the abdomen. Patient dozed most of time during the day, but was easily roused. The following morning the abdomen was still distended, but less than on the previous day, and the pulse had fallen to 80.

Twenty-four hours later there was a still further improvement, and the abdomen was softer and less painful under pressure. The next day, 72 hours after the delivery of the child, there was such a marked improvement that I considered the patient out of danger, and from that time on she continued to improve so that in three weeks' time she was about her usual avocations.—*Philadelphia Medical and Surgical Reporter.*

Materia Medica and Chemistry.

CHLORAL.

Theory of its action.—The question whether chloral passes through the blood unchanged, or not, is still *sub judice*, and directly opposite opinions are maintained.

M. Personne supports Liebreich's view, and concludes that chloral, on its entry into the blood, is decomposed into formic acid and chloroform, which again is ultimately converted into chloride and formiate of sodium, the final products of its elimination. The odour of the blood conceals that of the chloroform, but he demonstrated its presence by using the process employed in toxicological research for chloroform. Neither chloral nor chloroform could be found in the urine, but the formiate of sodium eliminated in that secretion has the power of reducing the cupro-potassic solution. (*Journ. de Ph. et de Ch.*, Fevr., 1870.) But, on the other side, Dr. A. Gamgee recently delivered an interesting lecture, in which he urges some very strong objections, chemical and physiological, against the probability of Liebreich's hypotheses of the action of chloral being due to the gradual development of chloroform. No doubt, chloral is readily decomposed by free caustic alkalies, but the blood does not contain any of these substances. The alkalinity of the blood is due chiefly to alkaline phosphate of sodium, and probably in part also to bicarbonate of sodium. Now with regard to the first salt, Dr. Gamgee finds, that even when it is heated to boiling point in contact with a solution of chloral, it fails to decompose it, while with regard to the second, it is only after the temperature has been raised above 70°C that chloroform is given off, the evolution becoming extremely free when the liquid is boiled. Moreover, the symptoms which are produced by small doses of chloral, are quite out of proportion with those which we can suppose would be caused by an equivalent quantity of chloroform existing in the system; and, in addition, when we contrast the action of chloroform and chloral, we find evidences of very great differences. For example, in the former instance reflex action is soon abolished; in the latter it appears often heightened, or nearly, if not quite, unimpaired.

Physiological effects.—Dr. J. R. Reynolds relates a case, in which very serious symptoms were produced by 45 to 50 grs. chloral in a middle-aged lady who had previously taken several 10 and 15 gr. doses with benefit. The symptoms came on in an hour, and were mainly those of extreme prostration, an intolerable sense of sinking, gasping, breath ,

and confusion of thought, and weak, irregular, and intermittent pulse. Under suitable treatment the symptoms were relieved, but returned with increased severity in the course of an hour, while the mind wandered, Relief was again obtained by the administration of white of egg, stimulants, fresh air, &c.

Mr. Streatfeild and Dr. Clifford Allbutt, call attention to the fact of the occasional postponement of the effects of chloral for twenty-four hours, as is also the case with morphia hypodermically, and Dr. Maund thinks that its occasional uncertainty of action may be explained by the knowledge, that its influence is resisted by those habituated to the use of alcohol. Mr. Waren Tay in one case observed, that when a stimulant (wine) was administered at the same time as the chloral, the effect of the latter was less marked.

Modes of Administration—Mr. P. Squire states, and others add their testimony, that peppermint water sweetened with syrup of tolu covers the taste of chloral better than anything else. M. Limousin proposes to avoid the unpleasant taste and irritating qualities of chloral by administering it in gelatine capsules or in *dragées*, and a "prescriber" recommends the following form:—Hydrate of chloral ʒ ss.; aq. chlorof. ʒ ii. (sp. chlorof. ?); syr. aurant. (or tolu) ʒ i.—ʒ ii.; tr. zingib. m. vi.—xii.; water to ℥ iss. Sir J. Simpson found that sickness is obviated by taking the chloral with lemon juice.

Therapeutic Uses.—The practical applications of chloral will fall, as before, under the heads of relaxing muscular spasm, of assuaging pain, and as a nervous sedative and hypnotic.

1. *Muscular Spasm.*—Dr. Richardson anticipated good results from ts use in tetanus especially, and it has since been employed in a few cases, Mr. Ballantyne in a traumatic case gave ʒ doses of chloral every four or five hours, with apparently good success, for out of nine cases of traumatic tetanus with which he has met, the only one which recovered was that treated by chloral. Mr. Waren Tay also tried chloral in a severe case of idiopathic tetanus of eight days' standing. Though the issue of the case was fatal on the tenth day after admission, relaxation of the tetanic spasms and the production of calm sleep constan ly followed the use of the chloral. The fall of temperature too, as soon as the patient slept, was definite, and remained so as long as she was not roused up. Dr. More Madden is well satisfied with the use of chloral in cases of difficult labour from rigidity of the uteri and soft parts.

2. *Pain.*—Its anodyne virtues seem to be subordinate to its hypnotic powers, and to be less certain in their operation. Smaller repeated doses appear to act more beneficially in this case than a single large dose; ten grs. as often as required may be suitably prescribed. Dr. Swift Walker claims for chloral a marvellous effect in cardialgia with excessive secretion of gastric juice, and also in allaying the sympathetic palpitation of dyspepsia, and Mr. Morgan has also employed it in acute suffering from burns, ulcerated nodes, &c. Dr. Ogle confirms Liebreich's expectations of the value of chloral in the treatment of inflammatory painful affections, such as acute rheumatism, gout, muscular rheumatism, &c.; and Mr. Weedon Cooke is more than satisfied with the excellent results obtained in painful cases of cancer. Sir J. Simpson, Dr. More Madden, and Dr. Brady, attest its use in painful affections of the bladder, and in ovarian pain the happiest effects have followed its use, after morphia and atrophia had been abandoned.

In the eclampsia both of uræmia and of the puerperal state Dr. von Seydewitz checked the convulsions speedily by chloral, after chloroform inhalations and other means had failed, and in puerperal mania and other nervous affections incidental to delivery, a most favorable opinion of its use is entertained by Drs. More Madden, Alexander, A. M. Adams, and others. In a case of acute mania, recurring for the third time, and attended with complete insomnia, twenty-five grs. of chloral were productive of wonderfully good effects in Dr. Crawford's hands; opium and morphia had been previously tried extensively with the result of making the patient worse.

Dr. Tuke has most carefully and searchingly tested the action of chloral in certain cases of insanity, and was invariably satisfied with it in chronic cases of insanity in which violent outbursts of excitement occur. He confirms the possession by it of the various advantages already claimed for it, and "believes it to be the most valuable means of procuring sleep which has yet been introduced into the Pharmacopœia of the asylum physician."—*Dublin Medical Press.*

A NEW IODINE PAINT.

By J. Waring-Curran.

I have been requested by some professional *confrères* to bring under the notice of the profession, a new *iodine paint*, which I have had prepared and used with satisfaction and success, in the cases of glandular enlargements and scrofulous diseases, wherein iodine is called into requi-

sition. In the hands of esteemed and eminent practical surgeons, it has proved equally beneficial as in my own practice, and they speak or write in flattering terms of it to me.

I rub down half-an-ounce of iodine and a like quanity of iodide of ammonium in a Wedgwood mortar, and gradually dissolve it in twenty ounces of rectified spirit; to this I add four ounces of glycerine, shaking the solution well together. A very nice paint is thus obtained, which has the following advantages:—

1. The iodine is prevented escaping owing to the combination which, in the form of ordinary tincture, in warm weather it is very apt to do.

2. It preserves the iodide of ammonium instead of iodide of potassium; the former being a more powerful absorbent than the latter, which recent investigation has verified.

3. The action of the glycerine is soothing to the skin, keeping it soft and pliable, a contrast to the shrivelling of cuticle produced by the ordinary tincture in common use, which frequently acts as a vesicant. But where absorption is desired, the part affected and its neighbourhood influenced, as well as the system generally, by iodine, and no local irritation required, this combination in form of paint will be found superior to the old tincture.

I have not confined the use of the preparation alone to glandular swellings or scrofulous gatherings. I have employed it in chronic cutaneous diseases, to nodes, over enlarged livers, diseased joints, to hypertrophied parts or morbid growths, and in cases wherein it was necessary to alter an abnormal action or promote absorption, and the result was uniformly satisfactory, and I think I may safely say the effect of the iodine was more readily appreciable, and more quickly demonstrated in its action on the system generally, as well as by its absorbent properties locally, than the old tincture of the British Pharmacopœia, *minus* its disadvantages.—*Dublin Medical Press and Circular.*

POISONOUS EFFECTS OF CARBOLIC ACID.

The *Edinburgh Medical Journal* says: Pardeleben found that when externally applied in surgical cases carbolic acid was absorbed and acted poisonously in about one case out of ten. This poisonous action was revealed often so early as the second day by a peculiar effect on the urine which, pale at first, gradually became darker on standing. No albumen was present in the urine, but the patients lost appetite and strength. He

recommends as a substitute the sulphocarbolate of zinc, first employed by Wood. Mr. Lister states that he has never observed the peculiar dark urine since the paste was replaced by the lac plaster.

Dr. J. Wallace applied carbolic oil (1 to 8) to an abscess connected with morbus coxæ, in a child aged five. In about two months time it was remarked that vomiting and dysphagia invariably followed each dressing, and on examining the urine he found it to possess a dark, smoky tint, very similar to the appearance of the urine in bad scarlatinal nephritis. Nitric acid added to the boiling urine threw down a heavy, dark precipitate. No trace of albumen. This deposit of pigment invariably appeared after each dressing with the carbolic acid, and disappeared again in a few days. A fortnight after the above symptoms were noted, he adopted Prof. Lister's most recent method of carbolic dressing by oilskin, coated with dextrine and shell lac, and carbolic acid plaster; matters became more favorable and the urine resumed its normal appearance. (*British Medical Journal*, April 30th). Dr. Lightfoot in the same Journal reports a case in which alarming symptoms resembling those of pyæmic poisoning clearly resulted from the application of a weak aqueous carbolic lotion (1 to 50). The symptoms were developed three successive times when the lotion was employed and gradually subsided on its removal. Vomiting was dangerously severe, so that the patient's life was almost despaired of, but the urine was not darkened in colour. Numerous observers have recently met with cases of poisoning in connexion with the use of carbolic acid, and it is very necessary to observe caution as to the too free external use of this agent. The *black* or darkened urine, which is the most constant symptom, has been shown to occur in an equally marked form, whether tar or some colourless preparation of it be the agent employed. The exact cause of the coloration is still an open question, but it is at least probable that the coloring matter is not derived from the blood. The constitutional disturbance is sometimes very grave, and seems to bear some connection with different forms of solution of carbolic acid, the lac plaster appearing to be the safest, while a weak watery solution, freely used, apparently involves the most risk.

Canada Medical Journal.

MONTREAL, NOVEMBER, 1870.

MEDICAL DEPARTMENT OF VICTORIA COLLEGE.

The winter session of this institution was begun the first week in October. The introductory to the course was given by Professor Berryman, to a large audience, composed of students and the general public, on the evening of the 5th, at the College, Yorkville. The Dean, in introducing the lecturer, referred to the very great services which Dr. Berryman had rendered to the College, having taught for thirteen sessions, and also acted as representative in the Medical Council. The learned gentleman delivered a most interesting and eloquent address on the duties and responsibilities of the medical profession. During its delivery he was frequently applauded, and at the conclusion a vote of thanks was passed, on motion of W. W. Dean, Esq., of Belleville, seconded by Dr. Hodgins, of Toronto.

On Friday evening Dr. Sangster delivered his introductory to the course on chemistry. The lecture was a most able one and gave evidence of very extensive acquaintance with the science of chemistry and its relations to vital operations.

We are glad to learn that the prospects of the College are very encouraging, a larger number of students being present than at the commencement of the previous session; and with the recent additions to the faculty we have every reason to believe that the institution will continue to maintain its high position. The opening of the session was also marked by the annual meeting of the Medical Alumni Association; the meeting was well attended and a number of papers on medical subjects were read and discussed.

The medical graduates residing in Toronto took occasion to entertain the Alumni with a supper, which was given at the Queen's Hotel, on Tuesday evening the 4th instant. Among the guests were the Professors of the Medical Faculty, Dr. Hodgins of the Educational Department, W. W. Dean, Esq., of Belleville, Drs. Tuck and McGuire of Guelph, Corbett of Derrytown, and others. The Dean of the Faculty was requested to preside, and speeches were delivered by a number of the graduates, all expressing a warm interest in the welfare of the College.

Among the toasts of the evening was one to the venerable Dr. Rolph, late Dean of the Faculty; Dr. Canniff was requested to respond, and, in doing so, expressed his sense of the high honour conferred upon him to

respond to this toast. He referred to the many excellencies of the veteran teacher, and stated that the retirement of Dr. Rolph from the position which he had so long held was exceedingly regretted by all his colleagues.

MEDICAL ALUMNI ASSOCIATION OF VICTORIA UNIVERSITY.

The annual meeting was held the first Wednesday in October; the following officers were elected for the ensuing year:—

President—Robert Edmondson, M.D., Brockville. Vice-Presidents—Edward Hornibrook, M.D., Mitchell; J. Widmer Rolph, M.D., Mitchell; Daniel Clark, M.D., Princeton; H. F. Tuck, M.D., Guelph. Secretary—John A. Mullen, M.D., Toronto. Treasurer—A. M. Rosebrugh, M.D., Toronto. Directors—E. J. Barrick, M.D., Toronto; F. S. Diamond, M.D., Toronto, H. Strange, M.D., Hamilton; S. C. Corbett, M.D. Derrytown.

MONTREAL GENERAL HOSPITAL.

We have received the forty-eighth annual report of this Institution and from it we gather the following information, which we are sure will be read with interest by a large number of our readers. The income for the year was $20,741,83, and the expenses amounted to $19,72712 when to this is added the deficiency of the previous year amounting to over $4,000, there is still a deficiency of $3,708,53. The reduced expenditure is due to the diminished number of indoor patients admitted during the year, the Committee of management having instructed the medical officers to restrict, as far as possible, the daily number of indoor patients to one hundred. The total number of indoor patients admitted during the year was one thousand three hundred and ninety-two, being less than the preceding year, by one hundred and eight. Eleven thousand nine hundred and thirteen out-door or dispensary patients received advice and medicine during the year. Of those received for treatment with in the hospital during the year, ninety-three died; twenty-six of them have expired within three days of their admission. During the year there was a large accession to the list of life governors by the payment of one hundred dollars. The total additions to the Endowment Fund during the year amounted to $4,264. Everything being taken into consideration, we consider the statement a satisfactory one.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

The members of the profession in Montreal have made another effort to establish a society, under the above designation, for the reading of papers and the discussion of topics of medical interest. A preliminary meeting was held on the 29th of October, and the matter having been fully discussed, a committee was appointed to draft a Constitution and Bye laws. This committee reported at an adjourned meeting, held on the 12th of November. Their report, with modifications, was adopted, and the society being duly organised proceeded to elect their officers, the ballot resulting as follows:

President, Dr. George W. Campbell; 1st vice president, Dr. Robert Godfrey; 2nd vice president, Dr. Hector Peltier; secretary treasurer, Dr. Thomas G. Roddick; Council, Drs. Fraser, David, and Reddy. The society will meet once in two weeks during the winter months and once a month in summer. The first regular meeting will be held on the 20th inst. We hope to be able to enrich our pages with many of the papers read by the members of this society.

THE LEGGOTYPE PROCESS.

The portrait of Professor Simpson in our last number, as well as that of Professor Syme in our present issue, have been reproduced by the process discovered by Mr. Leggo, of Montreal, and now known throughout Canada as "Leggotyping." We feel sure all will admit that they are but little, if anything, inferior to the very best wood engraving, while the rapidity with which they can be multiplied render them comparatively cheap. Judging from the very marked improvements which have taken place in the *Canadian Illustrated News* (illustrated by this process) since its commencement one year ago, we think we are not wrong in predicting for Mr. Leggo still further success in a process which, if such should be the case, will entirely revolutionize the illustrating of the periodical press.

Dr. John Brandon, of Ancaster, (Ont.), writes us as follows:

"Some years ago I began to use horse hair as a substitute for silver wire, silk thread, &c., for sutures, and I think that it possesses these advantages. It is more pliable than silver wire, also finer, which renders it more suitable for wounds about the head and face, and it is quite strong enough for most incised wounds, large flaps, perhaps, excepted. It does not absorb moisture, therefore it does not act as a seton. In using it, however, it is necessary to be a little careful in knotting—a double reef—or give the ends an extra turn, will make it as safe as any thread can be made."

JAMES SYME, F.R.S.

The many admirers and pupils in Canada of the late Mr. Syme, will, we feel sure, accept with pleasure the portrait of him which accompanies the present number.

Medical News.

The Edinburgh Committee appointed to consider the best form for a national memorial to the late Sir James Y. Simpson, Bart., have decided to erect a suitable monument, including a statue; also if possible the establishment of an institution for the treatment of diseases of women, open to sufferers from any quarter—over £2,000, has been raised for a Syme testimonial.

Sir Thomas Watson has succeeded the late Sir James Clark as physician in ordinary to the Queen.

Alexis St Martin, the Canadian who was shot through the stomach, and upon whom Dr. Beaumont experimented, is still living at Dutonsville, Vermont. He is married and has a family.

The record of vital statistics of the State of Massachusitts for the past year, developes some interesting facts. There were twice as many American marriages, as foreign ones. There were double the number of births to foreigners, that there were to natives. In Boston the proportion was 7 birth to the former and 3 to the latter. It is not hard we think to tell the cause for this.

A Dr. Carroll of Laurens County, Georgia, met with his death on the 2nd July, in a singular manner. He was approaching the house of a patient, late at night, when he was attacked by a fierce watch dog, who chased him to the front door. The proprietor of the house, hearing the noise rushed to the door with a gun, and shot the physician dead.

Dr. Gunning S. Bedford, died at New York, on the 5th September, aged 64 years. He was an eminent obstetrical writer.

From the Journal of the Gynæcological Society of Boston, October, 1870.

Writing at Ottawa, at the close of the session for 1870 of the Canadian Medical Association, we find ourselves chronicling events of more than ordinary interest to thoughtful physicians upon our own side of the border. Following the lead of the American Association, the principal men of the Dominion organized themselves into a national body, very soon after the confederation of the Provinces, adopting very closely our

own Code of Ethics, Constitution, and By-laws. Though the interests to be consulted were myriad,—for no one who has not studied them with care can have any idea of the intricate commingling of nationalities religions and politics, local and of a more general character, h re obtaining,—the movement was very generally acquiesced in by the profession, and the results have been already far more positive and satisfactory than could have been anticipated.

For the past year it has been known by those of us in the States who are interested—as who of the profession at large is not—in the elevation of the standard of medical education, that at this meeting of the Canadian Association the outline of a bill would be reported by the committee having the matter in charge, of whom Professor Howard, of Montreal, is chairman, to be entitled "The Medical Act for the Dominion of Canada," and having for its object a more complete repression of charlatanary, is improvement of the system of medical education, already in some respects far superior to our own, and a recognition by the schools, of the outside profession, as a counselling, supporting, and, to a certain extent at least, controlling power. It had been foretold by the most conservative men,—and it will be recollected that conservatism is as distinguishing a trait fo the colonial as of the native Briton,—that the Association could come to no common understanding upon any of these points, much less upon them all. The event proved the contrary.

The Western Province, in what is known as "The Ontario Act," passed some little time ago, had given a more than tacit recognition to "the sects," as they are here called, or to repeat the baptismal name conferred upon similar individuals in the States, to "those who choose to walk in the paths of pseudo-science,"*—and in consequence Homœopaths and Eclectics, as such, had been admitted to an influential position in the Council of Ontario, and, strange as it may seem, they now form members of its Examining and Licensing Board.

To retrace a false step is not always easy, providing even the inclination to do so exists. There can be no doubt, however, that in this instance, such will practically be done, and there can be no question, unmistakable as is the position of the Province of Quebec and the Maritime Provinces in reference to every form of quackery, that the profession in Ontario is equally indisposed to degrade itself to a level with the guerillas of the medical age.

We were not displeased, though apparently it might seem to conflict with American ideas, to see the general leaning to a Central Examining

* Boston Medical and Surgical Journal, May 19, 1870, p. 382.

Board, with an exception of college diplomas, no matter what their source, save in presumptive endorsement of a candidate's professional fitness. It was a painful shock to us, as Harvard men, to hear it stated in open session that in Ontario the Cambridge degree had been pointedly refused recognition by the Examining Board, because of the gross incompetence of persons who had presented themselves fresh from graduation at that school. Well known as it is that scores of provincial students for many years have flocked to Boston to get their diplomas more easily than at home, and that the college by the means familiar to canvassers has particularly bid for this class of students, the fact we refer to becomes the more distasteful.

As gynæcologists, the action of the Association in fixing the minimum of instruction in our own department at "two courses of study of six months each, in the diseases of women," independently of midwifery, to which also an equal amount of attention must be given, as well as "attendance on the practice of a lying-in hospital for six months," has afforded us much pleasure.

By this and similar positive action upon the part of our Canadian friends, more has been done in three days to necessitate an elevation of the standard of medical education in the United States than has been accomplished by the many years' discussion of the subject at conventions of our medical teachers, all told. Hereafter, provincial students intending to practise at home cannot come to our schools unless these are raised to the Canadian standard, nor can our own graduates cross the border with the intent to enter upon practice.

In one very important point the Canadian Association has improved upon the proposed Medical Act of the mother country. There, the Central Council is to be taken wholly from the schools and universities; here, one half of its members are to be elected from the outside profession. It is the first distinct and authoritative recognition of the doctrine enunciated and accepted at the meeting of our own Association the present year, that the profession, as such, has a controlling power over the colleges. That power each year will make more and more manifest.

Of the courtesy with which, as a delegate from the American Medical Association, we have been received at Ottawa, we need not speak. Meeting many old friends, encircled by men by far the majority of whom have been bred across the water, and who acknowledge the same teachers and doctrines as ourselves, our trip has been indeed to a professional Mecca, and we return more sure than before that our daily path, over whatever roughnesses it may be, points towards the only true and worthy goal.

CANADA
MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Bony fragments in the brain, resulting abscess. death five years after. History of the Case. By J. B CHAGNON, M.D., St Pie, Province of Quebec.

On the 6th of July last, I was called to attend Mrs. O. C., an American woman of a nervous constitution. Her general appearance was unhealthy. Said she was eight and a half months pregnant. Her present illness seemed to be that of severe neuralgia. Accordingly large doses of morphia were administered, and ethereal applications were constantly made on the seat of pain, which was the left anterior part of her head. I left my patient two hours after, with hardly any pain. I did not hear from her for a fortnight, when I confined her of a healthy child. Everything went on well during and after the accouchement.

On the 7th of August, sixteen days after her confinement, I was called again to attend her for what was thought, and seemed to be, neuralgia in the head.

I found her lying upon her back with the expression of most excruciating pain, constantly imploring some one to press and squeeze her head with both hands; pulse unnaturally slow, counting from forty to forty-five in a minute. Tongue much loaded with a whitish coat. The appetite was good, and all food swallowed was relished. The skin was moist and there were no signs of fever whatever. Urine natural in quantity and colour after being just voided, but loaded with a yellowish white mucous sediment after standing a while. Auscultation and percussion did not reveal any lesion in the vital organs of the chest. The character of the pain was lancinating and throbbing, radiating from the superior anterior angle of the left parietal bone, where it was most intense, towards the longitudinal suture, specially on the left side of it. The state of her mind was good until last. She paid no attention to noise; in fact, she seemed to be pleased with it, for she could not be induced to remove from her room, which was adjoining the kitchen to a more quiet place.

She enjoyed company between paroxisms which were most severe, especially at night; she, however, could not bear light of any kind, and her room had to be constantly kept dark.

Her strength during remissions was such as to permit her to leave her bed. Even twelve hours previous to her death, she walked to the kitchen and warmed her feet by the stove.

These symptoms (besides another one of which I shall speak hereafter) to which she was subjected, were constant in character and intensity until the last. She died on the 29th of August. This fatal event took place most unexpectedly. After the most severe of all the paroxisms she had had, as she expressed herself, "it bored her brain through," she suddenly dropped as in a tranquil slumber, but it was her last; she was a corpse.

As to treatment, it was pursued most vigorously. Morphia in large doses, even to one grain in one instance, gave her but three hours sleep.

Hypodermic injections seemed to be more beneficial than when opium was taken by the stomach.

Hydrate of chloral in 30gr., and in two instances 40gr. doses seemed rather to excite the nerves than to quiet them. Five doses of quinine of 8 grs each, taken at intervals of five hours, brought considerable relief to her pain.

Ammoniated tincture of Lupuline was tried with no benefit. Chlorodyne could not be borne on the stomach. By the way, I may say that the first day I attended Mrs. C. in her last sickness, she had had nausea, for which I gave her 20 grs. of Ipecac which relieved her; she never vomited after.

Bromide of potassium in 20gr. doses seemed to have no effect whatever. External and local applications were not neglected. Mustard, chloroform, ether, veratria, aconite, bisulphide of carbon were all successively employed; so also cold and warm fomentations, but all these proved of very little benefit to her.

In order to give all the interest which this case deserves, I must present to the attention of the reader the incidents of the five years previous to her last illness.

As just said, five years ago (date being unknown) whilst raising her head from the stooping posture close to a door, she struck it on the latch. The result being a lesion on the left superior and anterior part of the scalp. As the injury was regarded of no moment, no medical man was called, and healing took place after five weeks with a small amount of suppuration.

About ten months after, she had three convulsions of an epileptic

character in the same day. Dr. Gilmour, I believe, was called and relieved her. She was confined a fortnight after, and early convalescence took place. Since that time she was almost constantly troubled with flashes of light floating before her sight ; sometimes they were red in appearance, sometimes blue, less frequently versicolour.

About one year after, she had another epileptic fit which did not last very long. In the mean while, Dr. Drake, of Montreal, was consulted and prescribed for her, on two or three occasions. As it was impossible for this gentleman to be in permanent attendance on the case, I took charge of it, and in that very same year 1868, I confined her of a very healthy child. This time, convalescence went on as usual with no untoward symptoms. Eight months subsequently, she had two more convulsions in the same day, and they were the two last she had, making in the whole period of five years, the small number of five.

The 4th of June of same year, she was taken sick with peritonitis on account of an inguinal strangulated hernia which was readily reduced by taxis, and inflammation treated on common principles, with success; but convalescence being lingering, I gave her, on account of anemia and nervous weakness, the Cit. of iron and quinine for the period of six weeks.

She mended considerably in strength and cheerfulness by that course of treatment, periodically repeated. On the 19th of March, 1869, she was suddenly attacked with violent twitchings all over the face which lasted all the day, but no regular epileptic fit followed. I accordingly put her on potassium treatment; adopting *Brown Sesquard Anti-Epileptic mixture.*

This she continued to take until October following, when I applied a seton on the back of her neck. She kept it in for two months with apparently good effect. I lost sight of her then until July 6th, 1870, being the date mentioned at the beginning of the description of the case.

Autopsy thirty-six hours after death.—In my presence, Dr. Bergeron, graduate of McGill College, proceeded in the usual manner, to the examination of the brain. The first incisions of scalp revealed great congestion in all the vessels concerning the head. The dura mater was strongly adherent to the bone. No trace, old or recent, of any injury to the head could be thought of by looking at the inner table, so smooth and healthy was its appearance. Three or four ounces of blood were found at the base of the brain. Dura mater unusually hard and thick. A good-sized flap being made on the superior part of the right obe, no red puncta were to be seen ; and the white substance was very

soft, resembling more pancreatic emulsion than brain substance. No effusion of serum was found in the lateral ventricle of that side. Another flap about the thickness of four lines, having been lifted up from the other lobe, an abscess the size of a pigeon's egg, containing sanious pus, was found. Several fragments of bone were floating in it, two of them were the size of a common pea. The course of the abscess was parallel to that of the fissure of sylvius, this la t forming its lower floor. By cutting a little further on, the matter was seen to have made irruption into the corpus callosum and adjoining parts. The extravasation of pus had evidently been sudden, as demonstrated by the torn appearance of the lining of the abscess there; and this was probably the cause of the sudden death. The remote and immediate cause of death being determined on, no further examination was made.

Remarks.—Although the case here narrated may not possess the merit of novelty, for many cases of the same nature have been reported, yet it will serve to illustrate whatever certainty or uncertainty may exist in the diagnosis of this class of brain affections. The brain being such a compound organ as regard to its parts and their different functions, that any lesion of those parts will be accompanied by symptoms correspondingly different. Thus any case of this nature if carefully reported, cannot miss to be of some help not only to students, but also to practical physicians, specially if verified by post-mortem-examination.

Although this case may generally be considered as not uncommon, it, however, presents some facts truly interesting to a faithful observer:—

1st. That lesions of the cerebral hemispheres, however extensive they may be, do not necessarily arrest the natural functions of the mind, provided the cortical layer is healthy, and is connected with the thalami by nervous fibres that have not yet undergone the process of softening.

2nd. That the impression received to the thalamus and striatum is slowly elaborated there on account of its slower communication through the influential arc caused by deficiency of power of those fibres; hence the slowness of conception with persons having softening of the brain.

3rd. That although physiologists are generally willing to attribute mental capability in proportion to the volume and development of the cerebrum, we are not to overlook that it is like other organs, of a simple instrumental nature. The mode of action being an instrument, of course if that instrument becomes absolutely imperfect, the action becomes imperfect too; but on the other hand, if that instrument preserves a certain amount of power, impressions given to it will be slowly and effectually brought to their final purpose. This, therefore, is in my

humble opinion, why in this case, the mind was intact to the last, although the white softening must have reduced considerably its volume if we look at it as a cause of mental power.

Now, another question may arise, whether that woman could have been saved, if trepanning had been performed at the first epileptic seizure. M. Flourens, in a communication to the *Academie of Sciences* in Paris, relates a case nearly resembling the present, except the date of the first bad symptoms, which was nearer from the injury, being the 25th day after trepanning was performed, a large abscess made its way out and the patient was saved. He related another case of a young man from whose skull a large amount of brain substance issued, without at all impairing his mind, proving thenceforth that it is not so much the volume and weight of the brain that incapacitates the mind, but then a special endowment to the intellectual principle given by the Creator of all things.

We do not hold ourselves responsible for the opinions of contributors.—Eds.

HOSPITAL REPORTS.

Surgical Cases Occurring in the Practice of the Montreal General Hospital, under the care of G. E. Fenwick, M.D.

Case 1. *—Myeloid disease of the Femur—Amputation of Thigh—Acupressure—Secondary Hæmorrhage—Recovery.* Reported by Mr. John H. Mathieson.

Walter Smith, *æt.* 26, married, of spare habit, fair skin, red hair, and formerly a farmer, but for the past few years employed in an engine house, was admitted into the Montreal General Hospital August 15th, 1870, with disease of the lower extremity of the right femur. His constitution, though not strong, has never suffered from any severe illness.

About a year ago, he first noticed sharp pricking pains in the right knee, with nocturnal exacerbations. The joint gradually became weaker, and a false step, a slip, or any trivial injury, was followed by great pain and lameness, lasting sometimes for several days. No excess of heat, swelling or discoloration, however, was noticed. On the 25th of December, 1869, he got a kick from a colt in the popliteal space; the knee swelled up almost immediately to an enormous size. A surgeon was sent for, who pronounced it dislocation of the knee (?), and reduced it by

twice flexing the leg upon the thigh (!). The limb was then bandaged, and cold lotions applied to the knee for five days, after which a liniment was used. Ten days afterwards the swelling was considerably reduced, but has never wholly disappeared.

The joint is now very much enlarged, the limb bent outwards at the knee more than its fellow, and the leg flexed upon the thigh at an angle of about 135°. Flexion and extension can be performed without giving pain, and a firm blow on the heel can be born well. The tumour is firm, oval in shape; the temperature not perceptibly elevated, and the colour of the skin normal; running over its surface are several enlarged veins. By grasping the thigh firmly in one hand, and the knee with the other, motion may be produced at the upper extremity of the tumor, at the point where it terminates in the shaft of the femur, this resembles much an ununited fracture. Pain of the same character as first noticed still continues, but it is more severe. Dr. Fenwick stated that he regarded the case to be one of myeloid disease involving the lower extremity of the femur, and advised amputation at the lower third.

August 16th.—A consultation was held, and it was decided to amputate. The patient was put under the influence of chloroform, Dr. Drake compressed the femoral artery, and Dr. Fenwick began the operation by carrying an incision through the skin and subcutaneous cellular tissue, from a point on the inner side of the thigh, about six inches above the knee, downwards, over the upper part of the patella, and up again on the outer side of the thigh to a point opposite the place of starting; and, dissecting from the knee upwards, he formed a long anterior musculo-cutaneous flap. He then, in a similar manner, formed a short posterior flap. The flaps were retracted, the femur swept by the knife and sawn through. Four arteries were secured by acupressure, the femoral and anastamotica magna were secured according to the third method described. The flaps were sponged with carbolic acid lotion, and the edges brought together by interrupted wire sutures. Carbolic acid dressings were applied.

Examination of the diseased joint.—There was a large amount of synovia, and the synovial membrane was a little thickened. The patella, articular surface of the head of the tibia, and the articular fibro-cartilages were healthy. The extremity of the femur was very much enlarged—the external condyle more than the internal—and the intercondyloid notch obliterated. The tumor was firm, very slightly elastic, and freely moveable at its point of attachment to the shaft of the femur. A section was made dividing it into two lateral halves. The shaft of the bone was quite healthy, and terminated abruptly after entering the

tumor. The extremity of the bone was expanded into an ovoid sac or cyst, the diameters of which cut the axis of the femur at an angle of 45°, and measured four and a-half, and three and seven-sixteenths inches, respectively. The walls of the cyst were formed by a thin, flexible lamella of bone, and, at the extremity, the articular cartilage. A small portion of the periosteum on the outer condyle was congested and slightly thickened; the articular cartilage was healthy. The interior was firm, of a mottled grey colour, with several brown ecchymosed patches. The diseased substance extended up the medullary canal for about a quarter of an inch, and terminated abruptly.

Microscopically it was found to consist of free nucleated cells containing granular matter; several similar cells contained in large, mother-cells like cysts in which also was free granular matter, blood corpuscles, and a few oil globules.

5 P.M. (3½ hours after the operation.)—Pulse 64 and feeble; he is drowsy, and has considerable nausea, but no pain; has not yet recovered from the effects of the chloroform and shock. There has been considerable oozing from the stump. Ordered milk diet, with two pints of beef tea, and two pints of milk, extra.

August 17th.—Pulse 134, surface hot and moist, tongue and lips dry, respiration easy, pupils slightly dilated; is quite cheerful. He got liq: morph: mur: ℥ ss last night, and slept soundly for several hours afterwards. There is throbbing in the limb, and pulsation of the femoral is visible.

August 18th.—Pulse 124. He got morphia again, and slept well the greater part of the night. Two of the acupressure needles were removed, and the dressings changed; the stump looks very well. He has not much pain, the pupils are normal, tongue clean, lips not so much parched.

August 19th.—Pulse 120, and full; skin cool, dorsum of tongue coated with a dark fur,—had two stools yesterday—no pain, but did not sleep any last night, which he ascribes to lying so long in the same position. Oozing from the wound has ceased.

August 20th.—Pulse 118. He slept soundly last night, and feels well to-day. Another needle was removed. There was a sense of fullness in the stump, and Dr. Fenwick took out one of the stitches and removed a large clot of blood, syringed out the wound with carbolic acid lotion, and applied strips of plaster. His appetite is good.

August 21st.—Pulse 108, and full. He has felt more comfortable since the removal of the clot yesterday, and slept well last night. The last of the needles, the one securing the femoral, was removed to-day at 11 a.m. It was noticed upon removing it, that the wire which was

around it moved very distinctly, its motions corresponding to the pulsations of the vessel, and it was deemed better to allow it to remain for a time. There has been a little oozing since yesterday.

3.30 P.M.—While raising himself on his elbow to have his pillow adjusted, he felt something give way in the stump, followed immediately by a sense of great heat. Before Dr. Rodger, one of the resident assistant surgeons, who was at once sent for, could get up stairs the blood was running out beneath the dressings. He compressed the femoral artery until a tourniquet was applied. The dressings were then removed, and iced applications put on the stump. Two horse-shoe tourniquets were applied, and pressure made alternately on each. He lost about ℥ vj of blood. The wire that had been around the needle was removed.

August 22nd.—Pulse 128, weak, and small. He is very comfortable, and does not find any inconvenience from the tourniquets, which are changed as soon as they give pain. He has no appetite, probably due in part to nervous agitation.

August 23rd.—Pulse 122, and much fuller than it was. He slept well last night. Several large clots of blood were removed from the wound to-day, and some clotted blood came away with the pus.

August 24th.—Pulse 108. No pain; slept well; tongue clean; appetite returning; bowels regular; wound looks well.

August 25th.—Pulse 110. Slept well and feels comfortable. There is a moderate quantity of laudable pus. The tourniquets have been kept applied, and the pressure gradually diminished, till this afternoon, when it was all removed, but the instruments left in situ.

August 26th.—He is doing well; there is considerable pus; no preternatural heat, redness, or tenderness. There is a considerable interval between the flaps, especially at the outer half of the wound.

August 27th.—He slept well; the pus is increasing. The pressure of the tourniquets, and the contraction of the muscles, had so retracted the edges of the flaps that they could not be easily brought together, and protrusion of the end of the bone threatened. A broad strip of adhesive plaster was applied to the thigh anteriorly and posteriorly, forming a loop over the end of the stump, and secured in its position by circular straps—to the loop a cord was attached, which passed over a pulley at the foot of the bed, and suspended a weight of four pounds. By this contrivance muscular contraction was overcome, and the edges of the flap could be brought in contact, and retained by strips of plaster. The tourniquets were removed.

August 28th.—Pulse 114. He has an attack of diarrhœa, which

began yesterday evening. He feels weak, and is very irritable. Ordered pil camph. co. one every fourth hour.

August 29th.—Pulse 110. The diarrhœa still continues, but he feels much better than yesterday. His appetite is good, and he asks for more solid food. The stump looks well.

6.30 P.M.—He was raising himself in bed, and suddenly experienced a sensation, as of something giving way in the stump, followed almost instantly by a gush of blood. Dr. Rodger was called immediately, and applied the tourniquets as before, making pressure with each, alternately. He lost about ℥ vij. of blood. Pulse 130, and very weak; extremities cold and pale; looks blanched. Ordered brandy *ad libitum*. Iced applications to the stump.

August 30th.—Pulse 120, and fuller. He slept about three hours last night. The tourniquets have been kept constantly applied. Dr. Fenwick resolved to open the stump, and ligate the vessel from which the hæmorrhage had come. Having put the patient under the influence of chloroform, he separated the flaps (union had taken place to a great extent at the inner side). The pulsation of the femoral could not be detected in the stump, nor was there any hœmorrhage. The wound was healthy and clean, and the surface covered with granulations. A portion of the end of the bone was found to be devoid of periosteum. He therefore removed about three-quarters of an inch of it, washed the surface with carbolic acid lotion, and closed up the wound again, using a few wire sutures and strips of adhesive plaster. Dressed as before with carbolic acid lotion.

8 P.M.—Pulse 116. No hæmorrhage. The tourniquets have not been applied since it was taken down.

August 31st.—Pulse 116. He slept very well last night, and feels well to-day. Diarrhœa has stopped.

September 1st.—Pulse 118. No pain; very little pus; appetite improving.

September 10th.—Pulse 100. He sleeps well, has a good appetite, tongue clean, and all the symptoms are favourable. The stump looks well, and there is but little discharge from it.

September 24th.—He is doing well, though the wound is healing slowly; the edges are somewhat inverted.

September 27th.—His health is good; there is very little discharge now from the wound. About three inches of the edge of the posterior flap is inverted. At the outer extremity of the wound the granulations are large and rather pale.

September 30th.—The flap pressed strongly against the end of the

bone, and it became rather prominent. Dr. Fenwick bound strips of plaster tightly around the thigh, which removed the pressure of the flaps from the end of the bone. Over these the bandage was applied tightly. His health is good.

October 6th.—The strips of plaster were removed, and fresh ones applied in the same way. There is very little pus. General health and appetite good.

October 9th.—The plaster was changed again. The outer part of the wound is healing. The granulations are reduced to the level of the surrounding skin, and are healthy. All is now united, except where the edges of the flap are inverted. His health is good, and he goes out on the gallery for several hours each day.

October 17th.—The wound is very nearly healed, and his health is excellent. He left the Hospital to-day and went home.

Case 2—*Simple Fracture of the Femur with crushing of the Leg—Gangrene—Amputation of Thigh—Hæmorrhage—Death.* Reported by Mr. C. F. A. Locke.

William Harris, æt. 23, admitted to the Montreal General Hospital on Monday, 14th Nov., 1870, in, consequence of injuries received while assisting in the unloading of a hogshead of molasses. He received the entire weight of the barrel while in a sitting posture, upon the front of the thigh, at the same time that he sustained an injury to his leg by its being jammed between the edge of the barrel and the cross-bar of the truck upon which he was sitting. On examination there was found complete eversion with great mobility and shortening of about $1\frac{1}{2}$ inches. The femur appeared to be broken across (as if the blow had been directly from above) at the lower half of the middle third. No other bones were broken, nor was there any apparent important injury to the soft parts. The fracture was then set with the long outer splint extending from the nipple, to below the foot, and anterior and posterior leather pieces were applied over a padding of cotton batting.

15th. Complained this morning of pain and tension in the upper and inner parts of the thigh, in consequence of which the bandage was slit sufficiently to relieve him. Got a chloral draught at-night, and slept well; does not complain of anything.

16th. Limb easy and looking well. Patient in good spirits and making no complaint.

17th. On taking down the limb to-day found the foot and some distance

up the leg cold, partly insensible, and with a bluish-black discoloration of the skin. Dressing re-applied, but much more loosely than before.

18th. Skin dark, though not to nearly so great an extent as on preceding day; the limb put up in cotton batting with a loose roller.

19th. No change to-day.

20th. Looking bad; large slough forming, sensation very imperfect; tibial pulse not discoverable, due, as the sequel proved, not to arrest of circulation in that vessel, but more probably to the swollen condition of the parts. Put up leg on McIntyre's splint; to be dressed with hot carbolic lotions, frequently renewed; to have good nutritious diet and wine.

21st. Had a rigor yesterday. Found him to-day in profuse sweat; pulse 128; and yet the leg looks much more florid; there is more sensation in it, and the tibial pulse is clearly discoverable. To continue the hot lotions, and to take a grain of quinine every three hours.

22nd. Chill last night and another to-day. Dress as before and to take quinine three times a day.

23rd. Consultation held, at which it was decided to amputate at once. Dr. Fenwick then proceeded to amputate at the beginning of the middle third, making the antero-posterior flaps by transfixion. Having ligatured all the arteries and acupressed one vein, the wound was washed with carbolic lotion, closed with metallic sutures and dressed as usual. This was about 1-30 p. m.

At 8 p. m. found him doing well; stump easy; eating well; pulse 100, and not so feeble as might be expected. Gave him $\frac{1}{2}$ gr. of morphia in solution, which enabled him to sleep well.

24th. Found all doing well, but the pin used in acupressing the vein was found on the floor, probably pulled out by the patient during the slight delirium which followed the morphia draught. The wound was dressed as before and tension relieved by the removal of each alternate suture. Lips of the wound looking rather more gangrenous than might be desired.

25th. 10 a. m. Wound looking well; patient in good spirits; pulse good. 12.30. Hæmorrhage set in and continued for some little time before the alarm was given. However, as soon as it became known pressure was applied to the femoral and parts over the brim of the pelvis, which completely controlled the bleeding. The tourniquet was then applied and kept on constantly till the close of the case. His pulse rapidly rose in frequency and diminished in strength.

Brandy was ordered for him every quarter hour and beef juice, &c., to support him. In spite, however, of all that could be done he gradually sank, till, at 8.25 next morning, he died, apparently from asthenia.

CASE 3—*Amputation of Foot—Pyœmia—Death.* Reported by Mr. C. F. A. LOCKE.

Jacob McConnel, æt. 55; Irish Protestant; occupation that of a gardener; of good sturdy frame, but broken down by excessive drinking, to which he has long been addicted, was admitted to the Montreal General Hospital on October 6, 1870, suffering from an old indolent callous ulceration on the stump of the right foot, from which the phalanges, and with them the heads of the metatarsal bones, had been removed. Gives a history of feet frozen in 1838, for which the above operation was performed. The left closed nicely, forming a good serviceable stump, while the right persistently remained open, presenting the appearances above described, and discharging, never to any great amount, but always a certain quantity of thin, unhealthy looking pus.

The use of stimulating applications, &c., was repeated again and again, but always with the same unsatisfactory result. There could be found no evidence of diseased bone, nothing but an indolent sore, surrounded with thickened, half dead, and almost insensible skin. It was decided then to remove the foot higher up, and thus secure to the man a useful limb, and save him from the inconvenience of a sore in so exposed a part.

Accordingly, on the 13th of October, Dr. Fenwick extended a flap from above and another from below, and sawing through the irregularities of the anterior row of tarsal bones, removed a wedge of bone containing, with part of the tarsus, the remains of the metatarsal bones from the original operation.

The bleeding vessels were then secured, and acupressure brought into requisition for the obliteration of certain of them, and the wound dressed with carbolic acid lotion, 1 to 40. It seemed probable then that a slough of some size would form, on account of the deadened condition of the parts.

14th. Evidences of the formation of a slough beginning to show themselves, otherwise the wound looks well. The surgeon removed some of the stitches and all of the needles, and ordered him a chloral draught at night.

15th. Complains of bad taste in his mouth, loss of appetite, shows a brown tongue, and presents signs of hepatic derangement. Ordered a purgative, and the following: ℞. Potas. nitrat, ʒ j, potas. chlor. ʒ ij, aqua, ℥ viij, to be made into a mixture, and to take a tablespoonful every four hours.

16th. Had a severe chill this morning, accompanied by vomiting of a dark bilious-looking matter; head very hot; extremities cold; face greatly flushed; tongue furred, and pulse about 98. All this was followed by profuse perspiration, after which he seemed greatly relieved.

There is a distinct line of demarcation visible, a slough slowly spreading from the lips of the wound.

17th. Seems much better to-day, even though he had three severe chills last night and one to-day, which latter lasted for above an hour. Heart's impulse is stronger, and the pulse less fluttering in character. Skin looking jaundiced. Hot fomentations to be substituted for the carbolic lotion, and 5 grain doses of quinine every four hours: the potash mixture to be stopped.

19th. Complains of pain in the lower part of his liver. The part was percussed, and the organ found to be a good deal enlarged. To have a blister over the seat of pain, and to have his bowels freely moved.

20th. Remaining suture removed to-day. Looks about the same. Carbolic dressing to be renewed.

23rd. Been gradually getting worse in spite of good nourishment, stimulants, and the medicinal treatment above mentioned; slight hæmorrhage occurring twice during the last twenty-four hours. Wound looks perfectly bloodless; skin bright yellow; conjunctiva jaundiced; regular returning chills, but wanting in other cardinal symptoms of pyæmia. Pulse weak and fluttering, but not so frequent as often occurs in pus-poisoning. Ordered to be supported by frequently repeated doses of whiskey.

24th. Rapidly sank till 11 A. M., when he died.

Post Mortem.—Lungs found filled with small abscesses immediately beneath the pleura, and very much congested in the dependent parts. Kidneys somewhat enlarged, with a great deal of fat, and presenting abscesses similar to, though fewer than, those in the lungs. Liver enlarged, and weighing about a pound more than normal. No signs could be discovered of pus-deposits in other organs.

CASE 4—*Concussion of Brain.* Reported by Mr. J. D'AVIGNON.

Pierre Thibault, labourer, was admitted into the Montreal General Hospital on the 9th Oct., 1870. He was occupied on the 9th in unloading a boat, and fell from the deck down into the hold, a height of some seven or eight feet. He was immediately taken to the hospital and presented the *following symptoms:*

He was in an extreme state of collapse, surface pale and cold. features ghastly, breathing slow, pulse almost imperceptible, pupils widely dilated and insensible to the stimulus of light.

The accident resulted in no external injury, except a slight bruise on the right supra-orbital region. It was not deemed advisable to administer

stimulants and the patient was left to recover by himself. He remained quite unconscious from 5 o'clock p. m. (the hour of admission) until 10 o'clock p. m. Between 8 and 9 o'clock reaction set in and he was seized with violent vomiting and purging. His head was shaved and kept cool by evaporating lotions. The patient was ordered to be kept perfectly quiet and was put on a milk diet.

12th. He is as if in a deep slumber, and seems quite insensible to what goes on around him; his memory is much impaired and he has considerable difficulty in articulating distinctly, he complains of giddiness and severe pain in the head; pulse very slow, 56, labouring and compressible, tongue dry and furred.

He was ordered potass chlor. ʒ i, to water ℥ viii, of which one tablespoonful to be taken three times a day.

13th. He is still very stupid and drowsy; when roused he answers questions, but immediately relapses into unconsciousness. Although he does not seem to be very weak, yet on being requested by Dr. Ross to stand and walk, he was unable to comply with the demand, having apparently lost the power of combining movements; respiration easy; pulse continues slow and feeble, 55. His bowels having been confined for the last two days, he was ordered a dose of calomel and jalap, to be followed next morning by black draught.

14th. The calomel and jalap failed to operate last night and the draught taken this morning was rejected; tongue is a little dry, perhaps because the patient sleeps with his mouth half opened; he still complains of pain in the head, but cannot indicate any particular spot; he takes his nourishment well; he is still quite confused in his ideas; pulse 58.

15th. He seems to be a little better, remembers those that visited him yesterday: he complains of soreness along the spine and thighs. Black draught was given yesterday evening and operated well during the night; pulse 60.

16th. His speech is yet quite indistinct and stuttering; the pain in the head is less complained of; pulse 60.

17th. Pulse 62; still drowsy and heavy.

18th. No headache, but limbs and back feel stiff: tongue has a whiteish fur; bowels confined; he was ordered sodæ bicarb, 10 grs, calomel, 5 grs, black draught to-morrow morning; pulse 68.

19th. He reports himself as decidedly better and wants to go home, the purgative has acted freely; pulse 68.

20th. Quite talkative and much less inclined to sleep; does not complain of any pain; appetite good; general appearance much improved; pulse 70.

21st. He has gained a good deal of strength, walks about quite lively, and is anxious to return to his family.

25th. Was discharged to-day; his mental powers are not completely re-established, but he is able to follow his usual occupation.

CASE 5—*Epithelioma of Angle of Mouth.* Reported by Mr. T. D. REED.

Emily F., æt. 76, presented herself at Montreal General Hospital with a foul ulcer, with hard edges, occupying the right angle of mouth, and extending for about one inch along the upper lip and for about the same distance along the lower lip. The disease began four years ago, as an excoriation on the upper lip, since that time it has slowly increased in size, and now presents the characters of Epithelioma. Various applications of a caustic nature had been applied to it, from time to time. She acknowledges having been a smoker.

Oct. 12th. Patient being under the influence of ether, Dr. Fenwick made two semicircular incisions through the orbicularis and buccinator, thus removing the diseased part. Three vessels required ligation, one of which was the facial. A small portion of mucous membrane from the lower lip was reflected back in an ingenious manner to form the new angle of mouth and the integument separated from its attachment to the ramus of the lower jaw bone. The parts were then brought together and retained by six wire stitches and three pins with twisted sutures. Carbolic acid lotion 1 to 40, to be applied.

A small portion of periosteum seems to have been removed near the mental foramen, as the tissues were afterwards found adherent there. The patient made a good recovery in less than a fortnight, and with very little deformity, considering the extent of surface removed.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

DECEMBER 3rd, 1870.

The regular meeting of this Society was held in the rooms of the Natural History Society. The President, Dr. G. W. Campbell, Dean of the Faculty of Medicine, McGill University, in the chair. After the minutes of the previous meeting had been read and approved, Dr. George E. Fenwick read the following paper:—

CASE OF WOUND OF LEFT LUNG AND HEART.

FOLLOWED BY HÆMOTHORAX—PARACENTESIS THORACIS—DEATH.

Under the care of Dr. George E. Fenwick, Professor of Clinical Surgery, McGill University:— Reported by George Ross, A.M., M.D., House Surgeon, Montreal General Hospital.

Thomas Burns, aged 27 years, a sailor, was admitted into the Montreal General Hospital under Dr. Fenwick, at 2 A. M. of the 30th October, 1870, suffering from a wound from a sheath-knife, received in a drunken row on the wharf. The wound, which was about 1 inch long, was situated $1\frac{1}{2}$ inch below the left clavicle; its direction was downwards and to the right. By means of the finger introduced into the wound, an opening into the chest could be felt between the 2nd and 3rd ribs. The surface of the chest was emphysematous up to the clavicle and down to the nipple; the integument over the part was puffed out, and the crackling very distinctly to be felt. There was very little bleeding at the time of his admission, but I was informed that he had lost a very large quantity of blood: he was pale, and the pulse very weak and thready. Brandy was freely administered and, in a short time, he rallied from this syncopal condition, when the pulse was about 125. The edges of the wound were brought together with wire sutures, and a small compress with water dressing applied.

October 30. 10 A. M. Suffers no pain; no hæmoptysis; no chills; pulse 125; respiration hurried; the emphysema has not extended.

10 P. M. At 8 P. M. was seized with violent and excruciating pain which he refers to the small of the back on the left side, and extending round to the front; he shouts wildly, and is covered with perspiration; the pain is constant but always increased on drawing breath; pulse 130; respirations 40 and short; no pain in front of chest. *Ordered* hot turpentine fomentations and ℞. morph. sulphat. gr. ss. *statim*, and morph. sulphat gr. $\frac{1}{4}$ every three hours afterwards.

October 31. 10 A. M. Much easier; slept a good deal; still some pain in same region; no cough; no expectoration; pulse 132; respirations 22. The emphysema has extended so as to involve the whole axillary region and has increased in front. The side forms a large bulging sac of air. Percussion in front quite hollow or tympanitic, and also at the side, but behind, where there is no emphysema, it is perfectly dull up to the spine of the scapula, at which point it is distinctly tubular in character. The breathing scarcely to be distinguished in front, owing to the air under the skin, but behind it is absent except at the root of the lung, where distinct blowing respiration is to be heard. Breathing in right lung healthy, except at the base where some bubbling is heard.

Morphia to be discontinued, as pain is quite relieved. Ordered 4 ounces brandy.

10 P. M. Quite easy; no pain; pulse 130; the side is fixed; no respiration being visible or felt.

November 1. Pulse 125; respiration 25; no pain; spat up for the first time a small quantity of bloody mucus; the emphysema is somewhat less marked.

November 2. Pulse 112; respiration 25. Has had considerable pain all night, and repeated fits of violent coughing; considerable amount of expectoration, frothy and bronchitic in character, containing no blood; sonorous râles and mucous bubbling are heard all over the right lung.

November 3. Pulse 112; respiration 22. The wound has quite closed externally, and the stitches were removed; the integument at the part, however, can be seen to bulge during the act of respiration and especially during coughing. The emphysema has entirely disappeared, except very slightly in the neighbourhood of the wound; marked bulging of the side, and fulness of the intercostal spaces. The heart is dislocated to the right side, so that the point of impulse is just at the xyphoid cartilage.

November 4. Pulse 112; respiration 20; breathing more laboured; percussion, left side in front, dulness to top of 4th rib; above this a hollow or tympanitic note; behind, wooden dulness up to the spine of the scapula, above which the same tubular note is still found. Breathing in front absent below, and clear above; behind the same; vocal fremitus almost annulled over the whole side; vocal resonance absent below both front and rear, and above pectoriloquous and hollow; the whole left side of the chest nearly motionless: a large, dark purple ecchymotic patch is showing itself at the posterior part of the lateral region; takes food well and is in good spirits.

8 P. M. During a fit of coughing the lower edge of the wound was forced open, and a spout of dark-coloured fluid disorganized blood, was forcibly ejected in considerable quantity. Whilst he remains quiet no blood escapes, but during each fit of coughing the blood in a similar manner is ejected.

November 5. Pulse 115; respiration 22. Passed a restless night, forcing blood from the wound during each paroxysm of coughing; must have ejected altogether at least half a pint of this blood; cough being troublesome, ordered: ℞ potass. cyanid. gr. ii, solut. morph. ʒ ii, aquæ ʒ viii. To take one dessertspoonful every three hours. The ecchymosis on the side has increased to more than the size of one's hand and deepened in colour. The emphysema much decreased.

November 6. Pulse 108; respiration 20; cough less troublesome; physical signs unaltered; slight bleeding from the wound two or three times during the night; slight frothy expectoration without blood.

November 7. Pulse 94; respiration 21. At 8 P. M. thirty ounces, by measurement, of this fœtid blood were again driven from the wound.

November 8. Pulse 122; respiration 24. Several times during the night large quantities of similar blood have been forcibly ejected, sometimes in a stream completely across the ward, a distance of 10 or 12 feet. Seems somewhat paler to-day and considerably exhausted.

November 9. 10 A. M. Pulse 112; respiration 22. The ejected blood has now become excessively fœtid; looks weak and depressed. At 1, P. M., Dr. Fenwick, in consultation with several members of the hospital staff, decided to introduce a drainage tube. Accordingly an incision was made through the integuments at the posterior third of the chest and a large trocar thrust in between the 11th and 12th ribs, and three pints of intensely fœtid fluid, broken-down blood, were drawn off; a large curved, eyed, iron director was passed in and made to project in the 9th interspace, about four inches from the first opening; the end of this was cut down upon, the extremity forced through, and the eye threaded with a large-sized, perforated rubber drainage tube, the director withdrawn and the two edges of the tube fastened together in a loop. The whole cavity of the pleura was then freely syringed with a diluted solution of Condy's disinfecting fluid. The original wound was then closed by two or three metallic sutures and a compress and bandage applied over it.

10 P. M. Pulse 108; respirations 24; cough rather troublesome; considerable discharge from the tube.

November 11. Pulse 100; respiration 22; taking nourishment freely; A very abundant discharge of tolerably thick pure pus from the tube; expectoration bronchitic. Ordered four ounces of wine.

November 12. Pulse 96; respiration 24; very great distress in breathing; position of the heart unaltered, lying directly in the mesian line, its sounds without murmur, but weak and muffled; mucous bubbling is heard over the right lung both in front and behind. The discharge is becoming very profuse and decidedly more fœtid than before and thinner. He is getting very pale and much emaciated.

November 16. Pulse 115; respiration 25; discharge excessively fœtid and profuse; the original wound has been forced open again, and some of the matter occasionally comes from it; a large collection of matter is lodged under the skin around the wound, and, on coughing, is driven through it. From this date he gradually sank and finally died at 10 P. M. on the 20th November.

Sectio cadaveris 16 hours after death.—Left side of the chest flattened and contracted; it measures below the nipple 17½ inches, while the right side correspondingly measures 18½ inches. On reflecting the integument of the left infraclavicular region, a large abscess is found, extending from the lower border of the 1st rib to the upper border of the 4th rib, and from the edge of the sternum outwards about 5 inches; in the floor of this abscess, 2 inches from the edge of the sternum and between the 2nd and 3rd ribs, is found a circular opening about 1 inch in diameter. On raising the sternum the left lung is found collapsed, occupying but a small space against the vertebral column, the remainder of the cavity being filled with air. Lying on the diaphragm is a small quantity of pus. The costal pleura presents the appearance of a granulating surface and is smeared with pus.

The *Left Lung*—The *lower lobe* was entirely collapsed, non-crepitating and any portion sinking in water; the pleura covering it very much thickened and leathery. The *upper lobe* diminished in size and partially collapsed, but containing some air, as many portions of it would float. On its anterior and inner surface it presents a wound passing downwards and inwards, 2½ inches in length and 1½ inch in depth, showing on its sides several openings of divided bronchial tubes. At the upper part the edges of the wounded lung are slightly adherent anteriorly to the chest walls. At the lower extremity the wound dips beneath the pulmonary pleura, penetrates this latter at a point round which it is closely attached to the pericardium and then passes through the pericardium also, the orifice in it being about one-eighth of an inch in diameter.

The *Right Lung*—The *lower lobe*, deeply congested but crepitant throughout and floating: *middle lobe*, entirely consolidated, non-crepitant, infiltrated with pus and sinking in water; *upper lobe* had its lower third similar in condition to the middle lobe, and its upper two thirds crepitant and healthy. The pleura covering the two lower lobes was much thickened and covered thickly with lymph.

The *Heart* was displaced to the right, lying vertically in the anterior mediastinum, its apex corresponding with the situation of the xyphoid cartilage. On the surface of the heart immediately opposite the perforation in the pericardium already spoken of, is seen a small firm cicatrix about one and a half line in length, and at the upper angle of this is a small pocket of pus, of irregular form, about the size of a pea. The valves of the heart were healthy.

The *Pericardium* was externally adherent to both lungs; much thickened throughout, partially adherent to the surface of the heart, especially round the opening in it before mentioned; its free inner surface lined with thick layers of lymph, and the remaining cavity filled with pus.

I am indebted to Dr. Ross, the House Surgeon of the Hospital, for the very accurate and carefully recorded history of this case.

Remarks.—Wounds of the pleura and thoracic viscera, are of sufficient rarity to warrant my bringing the foregoing case before the notice of this society. The extent of the visceral lesions was undetermined during life, as the symptoms were negative. The man when admitted into Hospital was in a state of extreme collapse from loss of blood. He rallied slowly but steadily, but exhibited no signs of the important and extensive visceral lesions, which were found to exist on *post-mortem* examination. It would almost appear impossible that extensive and deep penetration from without the chest wall, can occur without a corresponding wound of the lung, when it is remembered the close approximation of the lung and its pleural investment to the chest wall; when such does occur, and there is abundant evidence to prove its possibility, it can alone proceed from the rapid admission of air through a large wound, producing collapse of the lung, thus removing it out of the reach of injury. These cases, however, must be regarded as exceptional, as it is more common to meet with these wounds complicated with visceral injury. It would appear difficult to determine definitely in cases such as the present, whether the lung is wounded or not, nor does it appear that a knowledge of visceral injury would in any way influence the results. Exploration by the finger or probe, is condemned as useless, if not highly hazardous; by so doing nothing satisfactory can be arrived at, and there is great danger of disturbing nature's efforts at repair, and removing clots from the mouths of opened vessels; all examinations, therefore, manipulative or otherwise, are denounced as unwarrantable. Other methods have been proposed, such as holding a lighted taper to the wound, which is kept open during the experiment, the patient being directed to take a forced inspiration, and try to distend the lung. If the flame flickers it is stated to be a proof of wounded lung. The objections to this are that the observer may be deceived, as no air will be forced out, even in some cases where the lung has been wounded, and again in other instances where the lung has escaped injury the air at each respiratory effort will be forced in and out of the wound. In this form of injury, the presence of air in the cellular tissue is no proof of wounded lung. The air rushes in and out through the wound at each respiratory effort; if there is even slight obstruction to its exit, which did occur in this case, as the wound was valvular, it will pass into the cellular tissue, and give rise to that emphysematous condition, which is looked upon as characteristic of wound of the lung, or any of the air passages.

Again the absence of hæmoptysis, which was here observed, is no proof

that the lung has escaped injury. It is as a rule present, more especially if any large bronchus has been opened. There are other symptoms of considerable diagnostic value besides those enumerated, which would lead to the suspicion of visceral injury, such as the escape of frothy blood from the wound during inspiration and expiration: a deep fixed pain in the chest, tickling cough, and dyspnœa, which were all absent in this case, and the absence of distress in breathing was marked and peculiar when we remember that one lung was almost entirely collapsed. In wounds of the character of the case under consideration, there are two conditions always present, viz.—Emphysema and pneumothorax. Emphysema even when considerable, will disappear in the course of a few days. Pneumothorax will be readily made out by the urgent dyspnœa, the tympanitic resonance of the chest wall, amphoric breathing and metallic resonance. These latter signs will not be clearly appreciable if the lung is much compressed. Another condition most likely to occur and one which existed in our case, is hæmothorax: the symptoms will much depend on the amount of blood poured out; where the hæmorrhage is large in amount and rapid in its occurrence, symptoms of collapse will be marked, and death will be rapid; when, however, the effusion is more gradual, wooden dullness can be traced upwards as the fluid increases in quantity: the heart will be displaced, marked bulging of the intercostal spaces will be noticeable and perfect absence of respiratory murmur. There is one peculiar sign which is described as occurring several days after the injury, and which was observed in this case, although not in the situation mentioned by Valentin, and that is a large ecchymosed spot in the lumbar region: it is described as reaching from the angle of the lower ribs toward the quadratus lumborum muscle, is of a deep violet hue, due to the transudation of blood into the cellular tissue of the part, and a sure sign of the presence of blood in the cavity of the pleura.

Mr. Syme states that where this ecchymosis exists it is due to the accumulated blood in the pleura passing out through the wound in the chest wall, and not finding a ready exit it becomes effused into the cellular tissue of the part. When a patient is propped up in bed in a semi-recumbent posture the blood will gravitate to the most depending position and thus is more frequently observed in the position indicated by Valentin. In our case this ecchymosis made its appearance on the sixth day and occupied a much higher position than that described, as it extended from the front of the axilla down the inner side of the chest wall, and was clearly produced in the manner described by Syme. When other signs are wanting this is regarded as conclusive of hæmothorax and renders paracentesis imperative. Wound of the heart, which existed in this case,

is a very rare accident; the symptoms of this lesion are by no means certain. Where the wound is extensive, opening one of the cavities, the hæmorrhage would be sufficient to produce instantaneous death. In some cases where the wound is not extensive, the quantity of blood effused is not great and it soon coagulates, and thus prevents further loss; acute pain in the sternal region is described by some writers as occurring in this lesion, and Dupuytren noticed a peculiar tremor with weakened arterial pulsations. In this case there were no symptoms to lead us to suppose that wound of the heart existed; the heart was displaced, and towards the termination of the case, the sounds of the heart appeared less distinct; but there never was observed at any one time frottement, which you would suppose should have existed; but at no period of the history of this case were there any symptoms referable to lesion of the heart. The opinion of some surgical authorities is, that in wound of the chest, involving wound of the heart, auscultation will afford no positive signs, though a peculiar crepitation has been observed, and in some cases a slight bruit.

Dr. R. P. Howard wished to draw attention to two circumstances mentioned in the report of the case just read that appeared interesting. One was that although a free opening existed in the thoracic wall through which the fluid effused into the pleural cavity escaped readily and in large quantity, yet the affected side of the chest was enlarged, which seemed to indicate that the mere weight of the fluid in the pleural sac, without any active distension, was sufficient to enlarge the dimension of the affected cavity. The other was, that although the left lung was completely collapsed by the pressure of the effusion and air in the pleural cavity, little dyspnœa was experienced, and the pulse respiration ratio was very little disturbed. Was this because the copious hæmorrhage from the wounded lung had reduced the amount of blood in the body and *pro tanto* lessened the need for the normal extent of respiratory surface? Or was it that the system had gradually become accommodated to the disturbed condition of the respiratory organs? There might be some other reasonable explanation of the circumstance, and he would like to learn the opinions of the members, regarding what was to him an interesting clinical fact.

Dr. Fraser remarked in regard to the slowness of Burns respiration with one lung completely destroyed, that it was not uncommon to find the frequency of the respiratory beats but little above the normal standard, in persons affected with chronic pulmonary disease, even when both lungs are affected. This he believed to be due, partly to the diminished amount of blood in such cases, partly to the comparatively small amount

of oxygen required to nourish tissues in the state of rest which such invalids usually maintained, and partly to the small amount of carbonic acid to be eliminated. In Burn's case, a large amount of blood had been lost, and consequently less of that fluid had to be aerated, andhe was in a state of perfect rest with little waste of tissue. Therefore one healthy lung seemed sufficient, without any extraordinary exertion, to perform the work of two, when the amount of blood was normal and the bodily functions were in a state of activity. Moreover, he was taking remedies well known for their effect n diminishing the frequency of respiration. These circumstances were, he thought, sufficient to account for the condition of the respiratory acts referred to by his friend Dr. Howard.

Dr. G. W. Campbell, (President) stated that while approving of the general management of the very interesting case, the details of which had just been read to the society, there was one point on which he thought a different practice might have been advantageously adopted, he alluded to the immediate closure of the wound in the walls of the chest. Such practice was against the experience of surgeons when the lung was wounded, and in the present case, he could not see any benefit to be expected from it. When the patient was admitted to the Hospital, there was both pneumothorax and hæmothorax present; then why shut up in the pleural cavity, a quantity of blood certain to become, from decomposition, a source of mischief. The collapse of the lung, which such practice might have been intended to prevent, had already to a great extent taken place, and would in itself be rather a benefit than otherwise, as tending to prevent hæmorrhage. Dr. Campbell went on to state that he highly approved of the paracentesis thoracis and only regretted that that operation was not performed at an earlier period.

After a few remarks from Drs. Hingston, Trenholme, Bell and others, Dr. Fenwick, in reply said: The only question, Mr. President, which appears to me to demand a reply, is that by yourself on the point of closing the wound by the house surgeon on the admission of the patient into Hospital, and I think that looking at all the circumstances of the case, the fact that it had been stated that the man had lost a large quantity of blood, that he was collapsed, was suffering much distress in breathing, that the air was rushing freely in and out of the wound at each respiratory effort, and also in looking at the situation of the wound, that the house surgeon and his assistant were perfectly justified in closing the wound. No advantage was to be gained by leaving the wound open, as if blood was effused into the pleural cavity it could not find exit through the wound unless the man had been turned over on his face and hung

up by his heels. The bulging of the intercostal spaces did not exist, nor indeed was the evidence of hæmothorax a present urgent symptom. I cannot see what advantage was to accrue from leaving the wound open, still I am aware that it is a procedure recommended on high authority. With reference to the treatment of the wound after a drainage tube had been introduced in a depending position, I thought it advisable to close it if possible. With this end in view, I again brought the edges together and strapped the side of the chest to secure perfect rest. Paracentecis might have been performed earlier, but I do not think that it mattered much, or that in consequence of delay the man in any way suffered, as there was no evidence of distress or mischief from the presence of the fluid in the eural cavity.

The heart and lungs were then shewn by Dr. Fenwick to the members of the Society.

DECEMBER 10th, 1870.

The usual meeting of this Society was held in their rooms, Natural History Society's building, on Saturday evening, the 10th December, Dr. Robert Godfrey, 1st Vice-President, in the chair. The following members were present, viz: Drs. Craik, Scott, Trenholme, Howard, Fraser, Chipman, J. A. Rogers, Finnie, Dugdale, Girdwood, F. W. Campbell, David, Tabb, Hingston, Kennedy, Thompson, Peltier, Gardner, W. Sutherland, jr., Drake, Reddy, Godfrey, Fenwick, Roddick, Sewell, Bell, Angus McDonnel.

Dr. Roddick, the Secretary, read the minutes of the previous meeting.

Dr. Robert Craik, Professor of Chemistry, McGill University, read the following paper:—

TWO CASES OF SEVERE COMPOUND INJURY TO THE ELBOW JOINT, TREATED BY CARBOLIC ACID. RECOVERY IN BOTH CASES WITH PERFECT JOINTS.

Case 1.—V. A., a stout, healthy young woman, aged about 20, was brought into my surgery on Sunday evening, the 1st of August, 1869. She had been thrown from a carriage at Côte des Neiges, and had seriously injured the left arm at the elbow, and had suffered other injuries of less importance. Finding from a cursory examination that the injury was a compound one of a very severe character, I had her conveyed immediately to the Montreal General Hospital, where, with the assistance of the resident staff, Drs. Ross, Roddick and Rogers, I made a thorough examination of the injury, and found it to consist of

a compound dislocation of the radius and ulna backwards. The wound was a ragged one, about an inch in length on the inner and anterior side of the joint, and had evidently been caused by the protrusion of the inner condyle of the humerus, which could be readily felt by passing the finger into the wound. No fracture of any of the bones could be detected. Having cleansed the wound from the dust and blood which adhered to it, I proceeded, with Dr. Ross's assistance, to reduce the dislocation in the usual way, which was effected without much difficulty.

As the weather was intensely warm at the time, and as the wound had been exposed to the air for fully an hour, I felt certain that in the ordinary course of things intense inflammation, with possible disorganization of the joint, would be very likely to supervene, unless prompt and vigorous measures were adopted to prevent them. Being a firm believer in the germ theory, and being thoroughly convinced of the efficacy and harmlessness of carbolic acid in such cases, even when applied to serous and synovial membranes, I determined to apply it thoroughly in this case. A mixture of one part of carbolic acid with ten of water was, therefore, carefully injected through the wound into every part of the joint and its vicinity, the syringe passing in different directions to a distance of several inches. Having squeezed out any excess of the liquid by slight pressure externally, the edges of the wound were brought together by strips of plaster, a pad of lint dipped in the same carbolic mixture was applied to a considerable surface around the wound, a piece of oiled silk placed over it, and a bandage and rectangular splint completed the dressing.

Very little pain was felt during the dressing, a slight smarting being the only sensation complained of when the joint was being injected with the carbolic mixture.

Monday, August 2nd.—Rested well during the night; scarcely any pain, and very little swelling.

August 4th.—Removed and renewed the dressing; no sign of suppuration; very little swelling; complains of slight smarting from the local irritation produced by the carbolic acid.

August 13.—She left the Hospital to-day, with the wound completely healed, but with considerable excoriation from the acid. There is an entire absence of pain or tumefaction about the joint, and when the splint is removed she can move the joint without difficulty. She was directed to continue the use of the splint for a week or two longer, to afford support until the ligaments should have regained sufficient strength.

On the 24th the splint was removed altogether, and passive motion performed regularly for a week or two to overcome some slight rig d ty o

the flexor muscles. She was also advised to use the arm for light kinds of work, and on September 14th the functions of the arm and joint had become fully restored.

Case 2.—James Rodgers, aged about 35, a brass founder, employed by Mitchell & Co., was brought to me on the evening of Sunday, February 6th, 1870, with a severe injury of the right elbow and forearm, produced by a kick from a horse. As the injury was evidently severe, I had him conveyed at once to the Montreal General Hospital, and, with the assistance of the resident staff, as before, I proceeded to examine and to attend to his injuries.

There was a wound on the under and posterior surface of the forearm, about two inches below the olecranon, and about three-fourths of an inch in length. Immediately beneath the wound was an oblique comminated fracture of the ulna, extending into the joint, and a fracture of the radius in the upper third. There had been considerable hemorrhage, though not apparently from any large vessel.

Remembering the excellent results of the carbolic acid treatment in the former case, I determined to carry out as nearly as possible the same line of treatment in this case, and I therefore proceeded, after cleansing the wound with tepid water, to inject the whole of the interior with the same carbolic mixture, 1 part to 10 of water. The syringe was passed freely in every direction, and the injection continued till the lotion flowed freely from the wound. The excess was then squeezed out, the wound closed, a pad of lint soaked in the carbolic mixture, applied with oiled silk, and the whole carefully supported by two strong gutta-percha splints and bandages.

February 7th.—Very little pain; considerable swelling, and great ecchymosis extending from the shoulder to the hand. No inflammatory redness, however, nor other bad symptom.

February 9.—Removed and renewed the dressings; no sign of suppuration. Swelling and ecchymosis of course still present; very little pain. Slight blistering from the carbolic acid.

February 16.—He left the Hospital to-day, the treatment having been continued as before and the wound being entirely healed. The swelling and ecchymosis are also nearly gone, but there has been considerable excoriation produced by the carbolic acid. The further treatment was carried out at his own house. Passive motion was cautiously commenced after the sixth week; the splints were removed at the end of the eighth week and he resumed his work at Mitchell's on Monday the 11th of April, exactly nine weeks after the accident.

Remarks.—Of course it is not pretended that there was anything ori-

ginal in the treatment of the foregoing cases. Professor Lister has so clearly and so often pointed out the efficacy and safety of the antiseptic treatment by carbolic acid, and the profession has to so large an extent adopted his views and his treatment, that there is now more scope for originality in abstaining from adopting them than in following what is fast becoming a well beaten track.

I have thought these cases, however, worthy of being laid before you chiefly because they were examples of injuries (fortunately not very common) involving an important joint, and which, under the old treatment, would in all probability have led to serious permanent injury to the limb.

Many persons entertained the idea that because carbolic acid, more or less irritant in its action upon the external skin, that therefore it mus be quite unsuitable or injurious when applied to delicate structures such as synovial and serous membranes. Such, however, was not the fact, for the concentrated acid had more than once been applied to serous membranes without the slightest bad effect. I myself on one occasion applied it in the presence of many now present in its most concentrated form to the stump of two pedicles in a case of double ovariotomy, and without producing the slightest evidence of irritation. In the cases now under consideration, although the acid was not used in its concentrated form, it was yet sufficiently strong to produce severe excoriation of the skin, and yet not the slightest evidence of irritation, except momentary smarting, was produced by its application to the interior of the wound and to the synovial membrane.

But it may be asked why use so strong a mixture when a weaker one would probably be sufficient? I reply that where the dangers to be guarded against are of such importance as the destruction of a large joint, and when it has been proved that no evil consequences follow the use of a strong mixture, it is better to be on the safe side, more particularly when the wound has been exposed to the air for a considerable length of time in hot weather.

In conclusion I would remark that to carry out the antiseptic treatment thoroughly it is almost necessary that one should be a firm believer in the germ theory, otherwise some necessary precaution is apt to be omitted which may vitiate the whole process. Just as a sentinel to be thoroughly efficient must firmly believe that enemies are hovering round eager to elude his vigilance, and a single portal left unguarded or a single moment's neglect may entail the loss of all, however valuable, which may have been committed to his charge.

Dr. T. G. Roddick, Assistant House Surgeon, Montreal General Hospital, read the following case :—

Comminuted fracture of lower extremity of the humerus with ruptured brachial artery—gangrene—amputation.

(Under the care of W. E. Scott, M.D., Professor of Anatomy, McGill University.)

Christmas Cater, æt. 21, of temperate habits, employed as brakesman on the G. T. R., while coupling cars on the night of Wednesday, 26 October, by some accident not well explained by himself, had his arm caught between the coupling irons, whereby he received a severe injury to the elbow joint, with considerable general shock. When seen by Dr. Scott, a few hours after, he was found to be suffering from a comminuted fracture of the lower extremity of the humerus involving the joint, the limb being much swollen from evident effusion of blood. He could move the joint without great pain, but on so doing a distinct diffuse crepitus was noticeable, and on closer examination, the condyles were found totally separated from the shaft of the bone, and through a sac of fluid at the back of the joint could be felt the broken point of the olecranon as though completely separated from the surrounding tissues. The parts were so swollen and infiltrated that nothing further of a definite character could be ascertained, excepting that the bones of the forearm had evidently escaped and that the joint proper appeared intact. The limb was bandaged, placed in a comfortable position and cold lotions ordered to be applied.

Two days following he was sent by Dr. Scott to the General Hospital. He then appeared to be suffering intense pain, and the arm was swollen to twice its normal size, livid, tense, and much colder than natural. The hand was correspondingly swollen, of the same livid hue as the arm, and cold and clammy to the touch. As it was impossible, both from the pain he was suffering and from the condition of the limb, to apply anything in the shape of splinting, the arm was laid comfortably on a pillow and hot fomentations of lead and opium constantly applied. He was put on sustaining treatment with abundance of beef tea and milk, and 4 oz. brandy daily. His pulse at this time was 110; skin acting freely; tongue slightly coated and bowels constipated. Ordered for the latter a mild aperient.

The day following his admission the pain seemed to have increased than otherwise, and the almost icy coldness of the hand of the day previous was found to extend up the arm to midway between the wrist and elbow. There was total loss of sensation in the hand, and even when pricked deeply with a pin he declared he felt nothing. We could not find the radial pulse by the most careful examination, but the question as to how long the circulation had ceased in the limb could not well be answered, as no one had before felt for it. The swelling and blue discolora-

tion had extended up the arm even to the shoulders, where he complained of great pain. His general condition was not worse than the day previous.

Nov. 1st.—Since last noted his health has not materially altered for the worse. The limb to-day, however, is cold as high as the joint, while the arm above seems to be taking on an erysipelatous action, being hot, red and roseated. The skin is so tense that you cannot make the slightest impress on it, and the fingers are so swollen that they are noticed to stand out from each other, and can scarcely be bent. Tongue slightly coated; pulse 115; skin drier than before; bowels regular; appetite good.

Nov. 4th.—Erysipelatous condition of the upper arm has disappeared, but he has not otherwise been nearly so well since yesterday; tongue brown and furred; skin hot; pulse frequent and small; loss of appetite; very little pain excepting in the shoulder, limb in somewhat the same condition. Ordered quinæ sulph. grs. j. three times a day, with pulv. cretæ co. c. opio gr. xx every 4 hours for the diarrhœa.

Nov. 8th.—Has not improved since the 4th. A large slough has formed at the posterior and inner part of the joint, where a bruise received during the accident was originally situated. In fact the whole limb from the elbow is in a condition of sphacelus. Dr. Scott has decided on calling a consultation for to-morrow, and in all probability will amputate. Poultices with carbolic acid to correct the fœtor are substituted for the hot fomentations.

Nov. 9.—To-day Dr. Scott, assisted by Dr. Fenwick and the other members of the staff, removed the arm at the middle third of the humerus by the double flap operation by transfixion. The cellular tissue was found to be much infiltrated, and indeed a small quantity of pus was noticed on the face of the upper flap. He lost comparatively little blood, although there were some half dozen apparently supernumerary vessels requiring to be ligatured, suggesting the idea of an attempt at a collateral circulation. He slept for a couple of hours after the operation, and at 10 P.M. expressed himself free from pain and inclined to sleep.

Examination of Limb.—Tissue all gangrenous; cut down on the radial and ulnar arteries at the wrist, and traced them to the upper third of the forearm when they became more and more indistinct, and ultimately over the joint terminated in a large diffuse sac of pus and blood. Found fracture of the lower extremity of the humerus entirely separating the condyle, with separation of the point of the inner condyle, and severe comminution of the olecranon. The condition of the parts went to prove that the joint was crushed by a force acting neither directly antero-posteriorly nor laterally, but between these two, or diagonally across the joint,

in which event, likewise, the laceration of the artery is more easily understood.

The stump did remarkably well, and the patient appeared to be rapidly gaining his former health, when, on the ninth day after the operation, he was suddenly attacked with a rigor and intense pain in both hips, near the joints. It was thought at first to be pyæmic, but the symptoms abated so rapidly, and without further developments, that they could hardly be explained under that head. He has never since, however, been entirely free from pain in the left hip, and there is a question now whether pus is not actually forming in the gluteal region of that side. He does not seem to gain in strength at all, though the stump may be said to have entirely healed.

The following is a synopsis of the discussion which ensued :—

Dr. Scott said that in the case read by Dr. Roddick, and which was under his care, there was at first no very marked evidence of rupture of the artery, although he thought it might have become entangled in the fragments of bone, and in that way compressed, and the circulation in the limb arrested. That it was ruptured, however, there could be little doubt, as was, indeed, demonstrated after the amputation. The day previous to the operation a fraction of the natural temperature returned to the forearm for a short distance below the elbow, and, as was mentioned in the report, a collateral circulation had been really set up, there being some five or six vessels given off above the profunda artery, of which at least two were as large as the brachial itself in its compressed state. As was also mentioned, about the ninth day there was intense pain in the right hip, preceded the night before by a distinct rigor. Pulse about 140. He, therefore, feared pyæmia, and gave him morphia and large doses of quinine. He rallied a good deal in the twenty-four hours following, and was now comparatively free from pain. Dr. Roddick states that the stump is healed, as will invariably be the case with all stumps when the double flap and ligature are used.

Dr. Fenwick, referring to Dr. Craik's paper, said that in his opinion it was not necessary to apply such strong solutions of carbolic acid as had been used in these cases, citing at the same time an instance in his own practise, in which a single application of carbolic acid oil 1 to 16 had apparently produced an extensive slough. The case was one of amputation of the leg, in which the man died of pyæmia. He never used anything stronger than 1 to 20, but his ordinary lotion was of the strength of 1 to 40. In reply to Dr. Scott, he would say that after a long and varied experience of acupressure in amputation, he considered the dangers from hæmorrhage by that mode of securing vessels not greater than by the use of the ligature, and he thought the results to the stump were more satisfactory.

Dr. TRENHOLME wished to know whether in similar injuries it would not be desirable at the outset to ligature the brachial artery, remove the effused fluid from the joint, inject the cavity with a solution of carbolic acid, and assist by artificial heat to maintain the temperature of the limb until collateral circulation was established, and afterward treat the fracture. This effort to save a limb was now undertaken in many cases with success,—thanks to conservative surgery and carbolic acid—where formerly it would not have been attempted.

Dr. REDDY made a few remarks with reference to injections of carbolic acid. Two years ago he had a case of gunshot wound, which was seen by Dr. G. W. Campbell. The accident happened at Tadousac. A charge of duck-shot entered the inner side of the thigh, near Hunter's Canal. When the patient arrived in Montreal he was very weak, and there was great stench from the wound, with an almost sphacelated appearance. His pulse was in the neighborhood of 140, and a good deal of jactitation. Carbolic acid injections were used of the strength of one part of acid to ten of oil. It was kept up for 20 days, when on entering the room one day he was quite conscious of hearing the sounds of the patient's heart, who complained of difficulty of speaking and of the beating of his heart. He at once stopped the injections, and the bad symptoms gradually subsided. He at that time was not aware of the peculiar colour of the urine in poisoning by carbolic acid, but its green colour attracted his attention. Twenty duck shot, as well as a piece of his coat and breeches, were extracted, and he made a good recovery.

Dr. SCOTT said in compound fractures, with rupture of the artery, the rule was not to amputate; in comminuted fracture, to amputate. The difference in prostration between venous and arterial loss was due to the rapidity of the loss when it was arterial.

Dr. FRASER remarked that having somewhat recently visited Europe, he had seen Lister apply carbolic acid in Glasgow, Pirrie in Aberdeen, and Paget in London. The strength of the various lotions of carbolic acid used by Lister were weaker than that used by Dr. Craik, in the two cases which he had read. If he remembered correctly Lister's strongest lotion was 1 to 40 or 1 to 60. There were various strengths kept constantly in the wards. Lister did not use it as a direct application to a wound, the usual lotion was applied, and then above it the carbolic acid paste. In Hospital practice in Montreal, he (Dr. Fraser) had imitated this plan by applying to ulcers such applications as red wash, and above it the carbolic acid and oiled silk, and the cases thus treated had invariably done well. In a case of compound fracture of the ankle joint, the joint being laid open, which was brought into the Glasgow Hospital

upon the occasion of one of his visits, Lister recommended the injection of the joint with carbolic acid. His (Dr. Fraser's) opinion was not in favour of employing strong solutions. He did not consider them necessary, 1 to 40 or 1 to 30 being as strong as he would apply it on a fresh wound. In old and weak persons, he had several times seen the parts look like as if they were blistered and burnt. Lister, in his wards, had not a stronger solution than 1 to 20, and they were as weak as 1 to 60. He mentioned a case of very extensive chronic eczema in an old man under his care in the Montreal General Hospital, where he applied an ointment of the strength of 1 to 4. He applied this strength, having read a case where a Dr. McNab applied the same with benefit. In his case the entire body was desquamated, the man fainted, and was in a state of collapse; the urine was of the green colour alluded to by Dr. Reddy. The man recovered, and notwithstanding this untoward event, the disease was cured. He thought there could not be any doubt of its efficacy in the treatment of skin diseases. This hint he took from Dr. McCall Anderson, whose practice he saw when in Glasgow. He strongly advised his skeptical friends to give it a fair trial. In his private practice he had prescribed it internally in cases of malignant scarlet fever. He also, in these cases, injected the nares and brushed out the throat with it. His experience of it in such cases was not large, yet he thought he could say he had seen good results from its use. Referring again to Professor Lister, Dr. Fraser said, one thing which could not fail to be observed was the great attention he gave his cases, and the rapidity with which he changed the dressing, seldom leaving the wound exposed for more than a moment. It was not used as a healing agent, but simply to act upon the germs. In Edinburgh he had seen Dr. Keith, celebrated for his successful cases of ovariotomy, and asked his opinion concerning carbolic acid. He replied he was favourable to its employment. Previous to its introduction he had used tar, but he now used carbolic acid, and believed he had more success from it. In Paris he found they knew little of carbolic acid. In going round the wards of the St. Louis, with a surgeon, he saw a case where he thought it might be applied with benefit, but the surgeon seemed to be ignorant of it. Shortly after he remembered it, and said they did not think anything of it. Dr. Fraser then alluded to Lister's carbolised catgut ligature, stating that since he had removed to Edinburgh he used the ordinary ligature carbolised, as being less apt to slip. He mentioned incidentally that Dr. Duncan, of Glasgow, had informed him that he had employed torsion twice on the femoral, and once in the brachial, successfully. He concluded by stating his firm conviction that in carbolic acid we had a valuable acquisition to our means of treating wounds.

Dr. R. PALMER HOWARD said the result of his experience in the application of carbolic acid to wounds was, that it certainly arrested suppuration, however it might act. The most important assertion, however, which has been made in connection with the use of this agent, was that by Lister, who affirmed that under his care, in the wards of the Glasgow Infirmary, where the acid was constantly applied, pyæmia had ceased to exist. It was a valuable anti-septic, and prevented decomposition, and in this way did much to reduce the frequency of both erysipelas and pyæmia. He did not think that it assisted cicatrization, but on this point he was not very clear.

Dr. DAVID mentioned a case of ozœna, where carbolic acid had been applied of the strength 1 to 10, and the patient was frantic from the pain. In scarlet fever he had used it internally, he believed, with good results. He gave one drop of the strong acid to adults, and half a drop to younger persons.

Dr. FRASER thought there was an anti-carbolic acid idiosyncrasy. He alluded to a case under his observation, where a first injection into a sinus, of a moderately strong solution was followed by alarming signs of weakness. He had seen many other cases where no such result ensued.

Dr. HINGSTON said he was not a believer in the germ theory, and yet he was daily in the habit of using carbolic acid. He would not, however, thrust it into a recent wound which promised to heal kindly, nor would he inject it into the cavity of a joint. Surgeons now-a-days, it seemed to him, were afraid of pure air. If the atmosphere was loaded with the germs, concerning which so much had been said this evening, would they not make their presence felt upon all occasions. In Hospital practice, where there were unpleasant odors, he would employ it, but in private practice, where plenty of pure fresh air was to be obtained, he would not think of using it. It certainly had the property of diminishing the secretion of pus, but in a primary amputation, bringing healthy flesh in contact with healthy flesh, he did not consider it necessary to apply either carbolic acid lotion or carbolic acid oil. With regard to a remark by Dr. Scott, that the double flap and ligature invariably did well, he (Dr. H.) had his share of surgery, and he never used the ligature, and believed he would never do so again. He used acupressure, and all his cases did well. He believed we should adopt all that was reasonable, and not place too much faith on what was fanciful.

Dr. REDDY said it was a somewhat difficult matter to determine what a germ is. Carbolic acid was, however, not only a very powerful, but a very valuable agent. By its use, he believed, the spread of scarlet fever

in any family could be prevented to a certainty. To this end he had it freely sprinkled about, and carbolic soap used by all in the family.

Dr. DRAKE desired to know if any member had any experience in the use of the sulpho-carbolates, which was said to be a good way of administering carbolic acid. They were now largely used in typhoid fever.

Dr. FRASER gave the acid internally in five drop doses, and never saw any bad effects.

Dr. FENWICK said he had recently read a case of poisoning by carbolic acid. The patient, a female, swallowed half an ounce of Calverts carbolic acid No. 4, insensibility rapidly ensued, and she died.

Dr. PELTIER knew from an extensive experience of the acid that it arrested suppuration and favoured cicatrization.

Dr. CRAIK, in replying to the various remarks of the previous speakers, said that with reference to the strength of the carbolic mixture, he did not wish to be understood as insisting on the proportion of one to ten being used in all cases, particularly as an external application. On the contrary, he believed that a weaker preparation would be preferable for external use, but, taking into account the harmlessness of the stronger mixture when applied to wounds and internal surfaces, and the importance of completely destroying every vestige of septic matter, he would still feel inclined to use the stronger mixture to internal parts. He thought great care should be taken in selecting a vehicle for the carbolic acid, no substance being suitable which was either difficult of absorption or poisonous when absorbed. For example, the different kinds of oils should not be used in wounds or cavities on account of their slight absorbability and tendency to become rancid. Boiled linseed oil, which was frequently used, contained a large quantity of oxide of lead, which could hardly fail to be prejudicial. Water was a good vehicle, or even glycerine, which was not irritating, especially when mixed with water. With reference to the germ theory, that was a matter which would probably always be a bone of contention, and the different conclusions arrived at would depend largely upon the peculiar bias of individual minds, but when an opponent of the theory attempted to argue against it, he should at least be logical in his conclusions. Dr. Hingston had asserted that if air were capable of producing the deleterious effects in wounds which were attributed to it by the supporters of the theory, it should do so in every case in which it had access to wounds. Such an assertion was, in his opinion, absurd, for the fact that germs were sometimes present in air did not prove that they were necessarily present under all circumstances. In Canada, at certain seasons, and in certain

localities, thistle-downs might be seen in large numbers floating in the air, and being carried with it to reproduce themselves and contaminate healthy soils elsewhere. But it would be equally absurd to argue that the air was always, and under all circumstances, loaded with thistle-downs. The fact was, that we should be guided in such cases by other evidences besides those of vision, and not jump to the hasty conclusion that because we could not see the germs, they did not therefore exist; there were other kinds of evidence which ought to convince a reasonable mind as perfectly as ocular demonstration.

Dr. HINGSTON begged to disclaim the views which had been attributed to him, and to say that he did not wish to deny the presence of impurities in the air under certain circumstances, but that pure air did not contain them. He considered that Dr. Craik's remarks about thistle-downs strengthened the view he had advanced.

Dr. CRAIK accepted Dr. Hingston's correction, and congratulated him on his apparent conversion to belief in the truth of the germ theory.

The meeting then adjourned.

Surgery.

WHISKEY AS AN ANTISEPTIC DRESSING.

In the Glasgow *Medical Journal* Dr. D. Blair recommends the use of whiskey as a surgical application. He says, I usually apply the whiskey as follows :—

To remove the foreign substances or clotted blood, the wound is first washed thoroughly with strong whiskey, it is then closed with stitches if necessary; again bathed with whiskey, and covered with a rag and bandage both saturated with the same fluid; and finally all is enveloped in gutta-percha tissue or oiled silk, and directions given to the attendants to wet the bandage from time to time with the spirits. As a rule, the first dressing is not disturbed for three or four days, and afterwards it is changed every day, or every second day, according to circumstances. The principal thing to be attended to is to have the bandage kept wet with the whiskey—but not *too wet*, or it will impede the progress of the cure. I have never seen much sloughing, and I have not once seen erysipelas occur in wounds treated in this way. Probably because

septic germs, if they exist at all, are not numerous in our hyperborean regions.

Case 1st.—J. M'P., a boy aged ten years, was amusing himself near a corn threshing machine, his hand got entangled in the wheels, and before they could be stopped, the middle finger and its metacarpal bone were crushed to pieces, the palm of the hand was lacerated severely, the ring finger was denuded of the flesh on the palmar aspect, but the bone was not broken. The boy having been put under the influence of chloroform, I removed the lacerated part and injured bone, then dressed the wound with strong whisky. The following day, when visited, the boy was sitting by the fireside, supporting his hand on a pillow laid on his knee. He was quite comfortable and cheerful, and could not be induced to remain in bed. I need not detail the progress of the case, suffice it to say that the hand healed rapidly, and I ceased attendance in three weeks.

Case 2nd.—Boy 8 years old had his hand caught between the wheels of a hay crushing machine, which was driven by a horse. Before the animal could be stopped, the hand of the boy was fixed in, and the arm drawn round the wheel so firmly that the little fellow could not be extricated until the machinery had been turned backwards. The thumb and next two fingers were torn off at their articulation with the metacarpus. The palm of the hand and inner aspect of arm up to axilla were lacerated so badly that we feared it would not be possible to save the whole arm; the metacarpal bone of the thumb was smashed and had to be wholly removed. We resolved to take away in the first place, only what was strictly necessary of the hand, and give the arm a chance of recovery. The parts were wrapped in cloths with whiskey, in the usual way, and the friends directed to wet the bandage two or three times daily. On the fourth day we removed the dressing for the first time; there was no discharge, no inflammation, no swelling. The arm looked well; the case went on uninterruptedly, and I only required to see him thrice.

In cases of chronic and scrofulous abscess, I have used whiskey as an injection, and find that it checks the discharge and hastens the cure. In a case of scrofulous abscess of the hip joint I attribute the recovery of my patient to its having been used in this way. The pain and hectic before and for some time after the abscess was opened, caused so much prostration that I had slight hopes of my patient's recovery. I persisted, however, in using the injection two or three times daily, bathed the whole often with spirits, and kept it wrapped in cotton wadding and a bandage. The stomach for a time would not tolerate solid food of any

kind, and even beef tea provoked nausea. Notwithstanding, in an incredibly short time, my patient rallied, and I had the pleasure of seeing him walk well, although the joint continued somewhat stiff.

In a singular case of abscess, situated beneath the muscles in front of the abdomen, which opened at the umbilicus, I was highly pleased with the result gained by these injections. The discharge obstinately continued, although I perseveringly applied for a considerable time poultices and lotions of different kinds; at last I resolved to inject with strong spirits, but from the peculiar situation of the abscess, and fearing inflammation might supervene, I used it very cautiously at first, but no unfavorable symptom having followed the first application, by degrees it was used more freely—two or three syringefuls at a time repeated twice or thrice daily. In a few days there was a marked improvement, and soon the discharge ceased completely, and the patient is now well.

Exophthalmic Goitre. By J. J. Chisolm, M.D., Professor of Operative Surgery and Clinical Professor of Eye and Ear Surgery for the University of Maryland.

Whilst general attention is being drawn to a disease the pathology and causes of which are unknown, cases which differ from an assumed type should be carefully noted. When these become sufficiently numerous, their symptoms can be analysed and useful deductions obtained. Exophthalmic goitre is one of those obscure diseases now under investigation, its curiously combined symptoms of heart-disturbance, thyroid enlargement, and protrusion of the eyeball remaining, up to the present, unexplained. The disease is an insidious one, usually of slow approach, and of very chronic tendency,—the unsightly and annoying protrusion of the eye being a very persistent symptom.

The first prominent symptom—often the precursor of all the others, and said to be always present—is rapid and forcible cardiac action, with tumultuous palpitation from the least excitement. The frequency of the pulse is rarely below one hundred beats per minute; and the great nervous excitability of those affected, with the accompanying irritability of temper, nearly doubles the heart-beats upon trivial provocation. Organic disease of the heart is found only exceptionally. In some cases there may be hypertrophy of the organ with atheromatous deposits to the vessels, but most frequently the cardiac disturbance is purely functional and the persons afflicted are young chlorotic women with irregular or suppressed menstruation. The implication of the heart is so very constant

that it is called the invariable symptom, and to many observers is a sufficient explanation of the enlarged thyroid gland and the undue prominence of the eye,—being, in fact, the point of departure of all the accompanying symptoms, and the key to the phenomena.

The goitrous affection involves, ordinarily, the entire thyroid gland, but either lateral lobe may alone undergo enlargement; and, although this hypertrophy is a very common complication, it is not invariably present. The protrusion of the eye is not commensurate with the size of the thyroid gland. In cases where the exophthalmus is very marked the thyroid enlargement may be scarcely perceptible; and, again, in cases of huge goitres there may be no eye-symptoms.

The prominent eye-ball, with its frightened stare, is the symptom which attracts most attention. At times it protrudes so much from the orbit as to expose the greater portion of the spherical globe. This protrusion is rendered more conspicuous by the retraction of the upper lid, which widens the palpebral fissure and exposes more of the selerotic. This blepharitic retraction, with dilatation of the pupil, is recognised as a very early symptom, and is supposed to indicate the neuropathological character of the disease, an abnormal condition of the sympathetic,—H. Muller having detected unstriped muscular fibres in the upper lid which receive nerve-influence from the sympathetic. The protrusion of the eye affects vision by stretching the optic nerve, and mechanically interferes with the movement of the ball. Ulceration of the cornea and destruction of the organ sometimes occur.

The following secondary symptoms in exophthalmic goitre are of greater or less frequency; Chloro-anæmia is nearly always present; also dyspepsia, with general debility and emaciation, with buzzing in the ears, dizziness, and fainting-spells, headache, vomiting, and deranged bowels. In females,—by far the most frequent subjects of exophthalmic goitre—there exists disturbed or suppressed menstruation. The face is often flushed, with increased temperature, and local sweating, restricted to one side when only one eye protrudes.

These various symptoms, which are more or less prominent, have from time to time attracted the attention of pathologists. Basedow, who in 1840 gave us the first succint account of this disease, supposed chlorosis and serous effusions to be the cause. Piorry explained the phenomena as sequelæ of heart disease, with consequent interference to the returning circulation—hence protrusion of the eyeball through congestion of the orbital vessels. More recent observers, among whom are Trousseau, Remak, Recklinghausen, Friedrichs, and Graefe, consider exophthalmic goitre a disease of the sympathetic nerve, either excited by reflex disturb-

ances from distant organs, as the uterus, etc., or by organic changes in its cervical ganglia, or by paralysis of the vaso-motor fibres coursing with the sympathetic. In autopsies, careful examination has exhibited the cervical ganglia of the sympathetic sometimes enlarged, at other times atrophic, and again apparently devoid of pathological changes, even under high magnifying powers. In some of these bodies the eyes have after death resumed their normal position, whilst in others the eyeballs continue to protrude, and in such the connective tissue which fills the posterior portion of the orbit has undergone hypertrophy.

In the following case, most of the so called invariable symptoms were wanting, making serious breaks in the chain of phenomena.

Miss A., aged 19, stout and strong, has noticed for the past five months that her neck was getting large, and that the right eye was acquiring an ugly stare. These symptoms were not connected with any special bodily derangement, nor has she suffered in any way. Her present condition is as follows: she looks pale, although she is very stout and never complains of fatigue; she states that she has never had a colour, and that she can walk many miles without any sensation of fatigue. Her digestion is good; she has a good appetite, is not troubled with constipation, and menstruates with great regularity, with a uniform loss, and without pain. She has never suffered from cardiac palpitation; her heart sounds are clear, pulse full and strong, 85 beats to the minute. She has never had flushings of the face, nor unusual sweating; the thermometer, carefully tried, detects no increased temperature. The right globe of the thyroid gland is double the size of the left, although it is not conspicuously prominent. The right superior eyelid is pinched, which prevents it from covering the protruding eyeball. When she looks up to the ceiling, the right superior lid is hidden completely by the orbit; when she turns the eye towards the floor, the lid does not cover more than one-half the exposed portion of the eyeball. When she tries to cover completely the protruding ball, the right superior lid quivers incessantly. The movements of the eyeball are somewhat impaired, the pupil is enlarged, but sight, for both near and distant vision, is perfect. Ophthalmoscopic examination shows no abnormal fulness of the retinal or choroidal vessels.

In the above cases the exophthalmos and goitre of the corresponding side of the body appeared and progressed simultaneously, but all the other symptoms so marked in by far the majority of cases—viz., cardiac, uterine, gastric, and cerebral complications, and debility—were wanting.

Medicine.

THE TREATMENT OF PNEUMONIA.

Dr. J. Hall, in the *American Practitioner* says:—In the first or congestive stage of pneumonia in plethoric subjects, in healthy, non-malarial regions, blood-letting is a valuable therapeutic agent, but in the second stage, and in malarial regions, as a rule, it is hazardous. I have not practised blood-letting nor used tartar emetic in the treatment of pneumonia for ten years, because we have other therapeutical agents that answer better, and are attended by none of the dangers incident to the use of these agents. Veratrum viride and digitalis are the remedies upon which I rely to control the undue action of the heart and arteries. In the early stage of the disease, in robust subjects, after moving the bowels with a mercurial purgative, I give Norwood's tincture of veratrum in four-drop doses, with ten grains of nitrate of potash, and from a fourth to a third of a grain of morphia, every four hours, increasing the tincture two drops every dose until the pulse is reduced to sixty-five a minute, or nausea and vomiting occurs. I then reduce it to four drops, and continue it until the active stage of the disease has passed by; then I stop the veratrum, but continue the nitrate of potash, with from one to two grains of opium and half a grain of ipecac.; and where there is a tendency to asthenia I add two grains of quinia to each dose. Under this treatment, frank, uncomplicated cases of pneumonia have seldom failed to terminate by resolution in from six to twelve days. But in some cases it has failed, and the fever has continued, with derangement of all the secretions, and complete hepatization of a portion of the lung tissue. In such cases I have derived great benefit from the use of mercury, digitalis, and opium, with free vesication over the diseased lung. I usually give one grain of calomel, with two grains of digitalis and one of opium, every four hours, and continue until resolution is established, or the constitutional effects of the mercury are manifested. I then discontinue the mercury and add two grains of quinia to each dose, and continue until the febrile excitement is controlled.

In asthenic pneumonia of old or delicate subjects, after opening the bowels with castor-oil or Epsom salts, I usually rely upon digitalis, muriate of ammonia, and opium. I give from one to two grains of digitalis in substance, with ten grains of muriate of ammonia and one grain of opium, every four hours, and continue until the febrile excitement is controlled; I then stop the digitalis and add two grains of quinia to each dose, and continue until convalescence is established.

In certain districts pneumonia is often complicated with malarial fever, and is characterized by marked remissions and exacerbations. In such cases I found a combination of quinia, digitalis, and opium to answer admirably. I usually give five grains of quinia, with one or two grains of digitalis and one of opium every four hours. In most cases this course meets every indication, and from my observation they terminate more favorably, and in a shorter time, than uncomplicated cases. I seldom use purgatives in the treatment of pneumonia after the bowels have been once thoroughly evacuated; and if necessary to open them again, I prefer saline laxatives.

Stimulants are seldom necessary, and I think are often injurious if given in the early stage of pneumonia. In the advanced stage they are valuable, and in many cases indispensable. I prefer carbonate of ammonia and brandy to all others. Nourishment is an essential element in the treatment of all protracted cases, and milk is to be preferred to all other articles of diet.

The local treatment of pneumonia is of considerable importance, especially in pleuro-pneumonia, and all other cases attended by much pain. I generally rely upon cupping and sinapisms; if they fail to afford relief, I inject a solution of morphia under the skin, over the seat of pain; from a fourth to half a grain is sufficient. The inhalation of chloroform is also efficacious in such cases, and not only relieves the pain, but mitigates the fever, and I am inclined to think facilitates resolution of the inflammation. Warm applications are valuable in all cases, and should always be used when more active measures are not deemed necessary. In the advanced stage of the disease, when resolution is tardy, and effusion of serum takes place in the chest, I resort to free vesication. I have applied the tincture of iodine with very good effects in mild cases, and especially in the pneumonias of children—painting the entire walls of the chest two or three times a day. I have also used a liniment, in the cases of children and delicate females, composed of olive oil, turpentine, and ammonia.

Expectorants, as a rule, are not advisable, I never use them, except in the advanced stage of the disease, when the bronchial secretion is deficient and the cough troublesome. The position of the patient should be frequently changed in protracted cases, especially in children. Ventilation of the sick chamber should be thorough, and the temperature uniform at about sixty-five degrees of Fahrenheit.

Canada Medical Journal.

MONTREAL, DECEMBER, 1870.

A case of a most extraordinary character, resulting in an extraordinary charge of manslaughter returned by a coroner's Court, against a physician of standing in his locality, has recently been disposed of by the grand jury, before the Court of Queen's Bench, held in the town of St. Johns, P.Q., who in our opinion very justly ignored the bill. We give the circumstances as related to us by one of the medical men examined by the Crown, and who was summoned to give testimony, as a skilled witness. Dr. Robert C. Morehead was called to attend a Mrs. Bertrand in her confinement, on the morning of the 13rd November; he remained with his patient and delivered her between four and five o'clock of the afternoon of that day, of a living child. Shortly after her delivery, hæmorrhage set in, and the Doctor proceeded to extract the placenta: on making traction on the cord, it gave way; when he was about to introduce his hand to remove the placenta, he was resisted by his patient, and in this she was supported by her husband, and some female friends in the house. The friends then sent for Dr. Laroeque, some miles distant and on his arrival he advised the husband to send for the priest, to administer the last rights of the church, as the woman was dying. No attempt was made by Dr. Laroeque to remove the placenta or arrest the hæmorrhage. As might be expected, two hours after the arrival of this sapient adviser, the poor woman died. Dr. Morehead remained with the patient to the last. In this latter particular we think Dr. M. was in error. He had done his duty, he had suggested and attempted to perform what was the only rational means of saving the woman's life and these attempts had been forcibly resisted by the patient, her husband and friends. Having therefore waited until another physician had been summoned, and finding that that individual did not coincide with him as to the propriety of acting, and acting with promptness, he should simply have retired, and thus thrown the full onus and responsibility of the case on Dr. Laroeque's shoulders. The next stage in the proceedings was, that Dr. Laroeque, with two other medical friends, proceeded to make a post mortem examination of the body before burial, and on their report Dr.

Morehead was arraigned before two magistrates, but these gentlemen seeing the whole proceedings were irregular, submitted the case to the Coroner of the District. A jury of twenty-three persons was empaneled, the body disinterred, and the three worthies who had before performed the post-mortem, were ordered by the jury to repeat their examination and give before them the results. The jury after a patient hearing, returned a verdict that the testimony, and especially that of the medical men, established that Robert C. Morehead, was guilty of criminal conduct, the grossest ignorance, and most criminal neglect. The coroner issued his warrant and Dr. Morehead was arrested and lodged in gaol. The day following the case was cited before Mr. Justice Monk of this city who issued a writ of *habeas corpus* and liberated Dr. Morehead on bail. These, we believe, to be substantially the facts of this case. They are the facts as given to us, and we lay them before the profession without comment. This we would, however, say that we think Dr. Morehead has a just and good cause of action for damages and defamation of character against Dr. Larocque, and we would very much like to see the matter tried and carried through to the very utmost. It has fortunately very seldom been our lot to record a similar case of so gross and unusual ignorance, not against Dr. Morehead, but against his opponant Dr. Larocque, as it was manifestly Dr. Larocque's duty to second his confrere by resorting to all means in their power to arrest the hæmorrhage, which result more than likely would have been attained on removal of the placenta.

ERRATA.

In the article on "The use of Amalgam, &c.," in the November number of the Journal, page 196, read Mr. F. G. Callender, member of Royal College of Dental Surgeons, and professor of Dentistry at the same college.

Page 203, read Mr. W. G. Beers says (all amalgamists say the same, and I may remark that they are only a repetition of the stale arguments of twenty or thirty years since] that those who use amalgam, &c.

Every Physician in Canada, should use Lindsay & Blackiston's Visiting List. They are compact, and will save their cost, a hundred times over in the course of a year. For sale by Dawson Bros.

We perceive, by the *American Journal of Dental Science*, that our worthy fellow-townsman, H. M. Bowker, Esq., was elected a Fellow of the American Academy of Dental Science at the annual meeting of that body, held in the City of Boston in September last.

Medical News.

MEDICAL COUNCIL.

PRIMARY AND FINAL EXAMINATIONS, APRIL, 1871.

The Examinations will begin at 9 o'clock on the morning of Tuesday, the 4th day of April, and will continue till Wednesday the 12th. Students intending to present themselves at the above examinations must make application to the Registrar, enclosing all certificates, tickets, &c., before Monday, the 21st day of March, 1871. The certificate of no medical practitioner of Ontario will be recognized, whose name does not appear in the Medical Register. Students are requested not to send superfluous tickets, as no record will be kept of any others than those which are requisite to procure admission to the examinations. Due notice will be given to students of the place of holding the examinations, and forms will be furnished through the secretaries of the various schools, upon which to make application to the Registrar. Students are requested to bear in mind that no exceptions can possibly be made to the strict requirements of the curriculum.

PROGRAMME OF EXAMINATIONS.

Tuesday, April 4th.—9 to 11 a. m.; Theoretical Chemistry. 11.30 a. m. to 12.30 p. m,; Practical Chemistry. 3 to 5 p. m.; Medical Diagnosis and General Pathology.

Wednesday, 5th.—9 to 11.30 a. m.,; Operative Surgery and Surgical Pathology. 3 to 4.30 p. m.; Operative Midwifery.

Thursday, 6th.—9 to 11 a. m.; Toxicology and Medical Jurisprudene. 3 to 4.30 p. m.; Physiology. 5 to 6 p. m.; Sanitary Science.

Friday 7th.—9 to 11 a. m.; Materia Medica and Therapeutics. 2 to 3 p. m.; Midwifery, other than Operative. 3.30 to 4.30 p. m.; Botany.

Saturday, 8th.—9 to 11 a. m.; Theory and Practice of Medicine. 11.30 a. m. to 12.30 p. m.; Surgery, other than operative. 8 to 5 p. m.; Descriptive Anatomy. 5.30 to 6.30 p. m.; Surgical Anatomy.

BOARD OF EXAMINERS.

C. M. Covernton, M.D., M.R.C.S. Eng., Physiology; J. H. Sangster, A.M., M.D., Chemistry; J. L. Lizars, M.R.C.S. Eng., Surgery; H. H. Wright, M.D., Medicine and Medical Pathology; J. Sweetland, M.D., Medical Diagnosis and Toxicology; M. Sullivan, M.D., Anatomy; Wm. Hope, M.D., Midwifery; H. F. Tuck, M.D., Materia Medica and Therapeutics; *D. Campbell, M.D., L.R.C.S. Eng., Medical Jurisprudence; *G. C. Field, M.D., Surgical Pathology; *S. S. Cornell, M.D., Botany; *George A. Carson, M.D., Sanitary Science.

MATRICULATION EXAMINATIONS.

The next Matriculation Examination will be held on the first Wednesday and Thursday in April, 1871, in Toronto and Kingston, at the Grammar Schools of the respective places. Gentlemen are requested to give notice six days before the examination, to the examiner before whom they intend to present themselves, stating the "optional subject" in which they wish to be examined.

Examiners. { A. Wickson, M.A., LL.D., Toronto. S. Wood, M.A., Kingston.

A LEGION OF DOCTORS.

Seventy-four thousand doctors! Think of it. All this number in our country, according to the present census, unless the newspapers inform us falsely. In 1860 there were fifty-five thousand,—an increase of 19,000 in ten years, or nearly two thousand a year.—*Medical and Surgical Reporter.*

TESTING THE PURITY OF HYDRATE OF CHLORAL.

The purity of hydrate of chloral may, it is said, be tested by means of a concentrated solution of potash. The pure hydrate does not colour this at all, or at most only a feeble yellow, and gives forth the pure smell of chloroform. Should the liquid assume a brown colour, and the smell of chloro-acetic acid be combined with that of cloroform, or should gases of a pungent odor be developed, which is not seldom the case, the product is impure and unfit for use.

NAVAL MEDICAL SERVICE.

Dr. Thomas J. Alloway, of Montreal, and a graduate of McGill College, passed the examination for admission to the Naval Service held at the London University, between the 8th and 11th of August last. He received 1,875 marks—the highest being 2,435, and the lowest 1,321.

DISEASES, ACCIDENTS, &c., TREATED DURING THE YEAR IN THE HOSPITAL.

Diseases, &c.	Discharged	Died.
Abortio	1	0
Abscessus Var.	33	0
" Cerebri	0	1
" Hepatis	0	1
Ambustio	8	1
Amenorrhœa	2	0
Anæmia	12	0
Anchylosis	3	0
Aneurisma	1	1
Angioleucitis	1	0
Anus Occlusus	2	0
Apoplexia	1	3
Arthritis Acut	1	0
" Chr.	3	0
Ascites	2	0
Asthma	2	0
Atresia Iridis	3	0
Bronchitis Ac.	32	0
" Ch.	18	0
Bubo	8	0
Bursitis	5	0
Calculus Vesicæ	1	0
Carcinoma Facies	1	0
" Linguæ	4	0
" Mammæ	3	1
" Ovarii	0	1
" Penis	0	1
" Recti	3	0
" Uteri	1	1
" Ventric.	0	2
" Vertebrarum	0	1
" Var.	4	1
Caries	8	0
Cataracta	13	0
Cellulitis	7	0
Cerebritis Ch.	2	2
Cholera Canadens.	2	1
Chorea	1	0
Cicatrix	2	0
Concussio Cerebri	3	0
Conjunctivitis	4	0
Constipatio	6	0
Contractio Genu	1	0
Contusio	27	0
Cystitis Ac.	10	0
" Ch.	2	0
Debilitas	26	0
" Post Partum	3	0
" Senilis	0	1
Delirium Tremens	6	2
Dementia	5	0
Diabetes	0	1
Diarrhœa	30	3
Dysenteria Ac.	14	1
" Ch.	1	0
Dysmenorrhœa	5	0
Dyspepsia	21	0
Ebriositas	1	0
Eclampsia Puerp.	1	0
Ectropion	2	0
Eczema Ac.	6	0
" Ch.	1	0
Emphysema Pulm	1	0
Enteritis	2	2

Diseases, &c.	Discharged.	Died.
Entropion	5	0
Epilepsia	5	0
Epistaxis	3	0
Epithelioma Vulvæ	0	0
" Var.	6	0
Erysipelas	11	0
Erythema	3	0
Favus	4	1
Febricula	40	0
Febris a potu	14	0
" Intermittens	5	10
" Miliaris	1	0
" Puerperalis	1	0
" Typhoides	31	0
" Typhus	2	0
Fistula in Ano	3	0
Fractura Clavic	2	0
" Costarum	5	2
" Cranii Co.	0	0
" Cruris	5	2
" Cruris Co.	1	0
" Femoris	7	0
" " (ununited)	1	0
" Fibulæ	7	0
" Humeri	3	1
" " Co.	0	0
" Maxil. Infer.	3	0
" " Super.	1	0
" Oss. Metacarp.	2	0
" " Metatars	1	0
" " " Co.	1	1
" Pelvis	0	0
" Phalang Co.	1	0
" Radii	4	0
" " et Ulnæ	2	0
" " " Co.	1	1
" Scapulæ	1	0
" Tibiæ	1	0
" Ulnæ	1	1
" Vertebrarum	0	1
Gangræna	1	0
Gastrodynia	5	3
Gelatio	4	0
Glaucoma	3	0
Gonorrhœa	13	0
Hæmatocele	1	0
Hæmoptysis	3	0
Hæmorrhoides	3	0
Herpes	1	0
Hydrocele	6	1
Hydrothorax	0	0
Hypopion	1	0
Hysteria	8	0
Icterus	1	0
Impetigo	5	0
Iritis	4	0
Keratitis	13	1
Laryngitis Ac.	3	0
Lepra	1	0
Leucoma	4	0
Leucorrhœa	3	0
Luxatio Humeri	2	0
" Phalang Co.	1	0
" Radii Co.	1	0

Diseases, &c.	Discharged.	Died.
Mania	2	0
Mastitis Ac.	2	0
Meningitis Ac.	0	1
Menorrhagia	5	0
Metritis	4	0
Metroperitonitis	1	0
Molluscum	1	0
Morbilli	7	0
Morbus Brightii	14	3
" Cordis	14	7
" Coxæ	5	1
Myelitis Ch	3	0
Necrosis	4	0
Nephritis Ac.	5	1
Neuralgia	9	0
Ophthalmia Scrof.	2	0
" Tarsi	2	0
Orchitis	9	0
Ostitis Ac.	1	0
Ostitis	1	0
Oxaluria	1	0
Ozœna	1	0
Palatum Fissura	3	0
Paralysis, Partial	11	0
Paronychia	4	0
Periostitis Ac	5	0
Peritonitis	0	1
Phagedœna	1	0
Phlebitis	1	0
Phlegmasia Dolens	2	0
Phthisis	39	14
Phymosis	1	0
Pleuritis	7	1
Pleurodynia	8	0
Pleuropneumonia	7	0
Pneumonia	20	6
Polypus Uteri	1	0
Prolapsus Uteri	1	0
Pterygium	1	0
Pyæmia	0	3
Retinitis	2	0
Rheumatism Ac.	41	2
" Chr.	14	1
" Musc.	18	0

Diseases, &c.	Discharged.	Died.
Scabies	1	0
Scarlatina	3	2
Sciatica	5	0
Sclero-Conjunc.	1	0
" Keratitis	1	0
Sinus	2	0
Staphyloma	3	0
Strabismus	3	0
Strictura Recti	1	0
" Urethræ	3	0
Subluxatio	10	0
Sycosis Menti	1	0
Symblepharon	1	0
Syncope	1	0
Synovitis Ac.	9	0
" Chr.	3	0
Syphilis, Ac.	35	0
" Ch.	19	0
Thrombosis	1	0
Tonsillitis	8	0
Torticollis	1	0
Toxicatio	2	0
Trachoma	13	0
Tumor Abdom.	2	1
" Antri	1	0
" Colli	1	0
" Cystic	2	0
" Mammæ	2	0
" Meat. Urin.	2	0
" Oculi	1	0
" Ovarii	0	1
" Scroti	1	0
" Uteri	1	0
" Vulvæ	1	0
Ulcus Var.	54	0
" Corneæ	15	0
" Gastric	1	1
" Rodens	1	0
" Uteri	3	0
Variola	18	2
Varioloid	10	0
Vulnus	26	0
Total	1188	93

OPERATIONS, &c., DURING THE YEAR.

Major Operations.

Amputation of Thigh	2
" " Leg	7
" at Shoulder Joint	1
" of Breast	3
" at Ankle Joint (Symes')	1
" of Foot (Hey's)	1
Excision of Axillary Cancer	1
" " large Mammary Tumor	1
" " Tumor of Neck	1
" " Scirrhous Tumor of Leg	1
" " Tongue	1
" " Uterine Tumor	1
Paracentesis Abdominis	4
Perineal Section (Symes')	1
Extraction of Cataract	8
Laryngotomy	1
Total	35

Minor Operations.

Amputation of Fingers	12
" Toes	8
Excision " Metatarsal Bone	1
" " Metacarpal Bone	1
" " Lachrymal Gland	1
" " Tumors Cystic	12
" " " Fibrous	2
" " " Fatty	2
" " " Various	5
" " Epithelomia of Face	2
" " Jacob's Ulcer	1
" " Phalanx	1
Operation for Entropion	5
" " Ectropion	5
" " Cure of Hydrocele	3
" " Imperforate Anus	1
" " Pterygium	2
" " Fistula in Ano	1

Operation for Staphyloma (Critchett's)	3
" " Strabismus	42
" Plastic for Cicatrix	3
" for Lachrymal Fistula (Bowman's)	1
" " Ununited Fracture	1
" " Web Fingers	1
" " Symblepharon	1
Ligature of Hæmorrhoids	6
" " Erectile Tumor	1
Removal of Foreign body	9
" " Sequestrum	3
Evulsion of Nail	3
" " Nasal Polypus	2
Tapping Hydrocele	6
Cauterization of Cystic Tumor	2
Keratonixis	1
Iridectomy	8
Staphylorrhaphy	2
Tenotomy	2
Brisement Forcé	1
Catheterism of Nasal Duct	20
Injecting Bursa Patella	2
Reduction of Paraphymosis	3
Circumcision	4
Venesections	2
Vaccinations	48
Catheterisms	112
Cuppings	18
Teeth extracted	267
Incisions, various	204
Wounds dressed	486
Total	1299

FRACTURES TREATED DURING THE YEAR.

In-door.

Simple	49
Compound	8
Total	57

Out-door.

Fracture of Acronium	1
" " Clavicle	12
" " Fibuia	1
" " Humerus	4
" " Phalanges	2
" " Radius	17
" " " and Ulna	7
" " Ribs	3
" " Scapula	1
" " Thigh	1
" " Ulna	1
Total	50

DISLOCATIONS REDUCED DURING THE YEAR.

Dislocations of Shoulder	6
" Compound of Phalanx	1
Total	7

CONSULTING PHYSICIANS DURING THE YEAR.

GEORGE W. CAMPBELL, ESQ., A.M., M.D. | WILLIAM SUTHERLAND, ESQ., M.D.
ROBERT CRAIK, ESQ., M.D.

ATTENDING PHYSICIANS DURING THE YEAR.

During first Quarter.....DRS. FRASER and REDDY.
" second Quarter ..... " SCOTT and WRIGHT.
" third Quarter ..... " MCCALLUM and FENWICK.
" fourth Quarter..... " HOWARD and DRAKE.

RESIDENT MEDICAL OFFICERS DURING THE YEAR.

GEORGE ROSS, A.M., M.D., House Surgeon; T. G. RODDICK, M.D., Assist. House Surgeon; T. A. RODGER, M.D., Apothecary.

MR. EDWARD RUSSELL, House Steward. | MISS FORBES, Matron.

CANADA

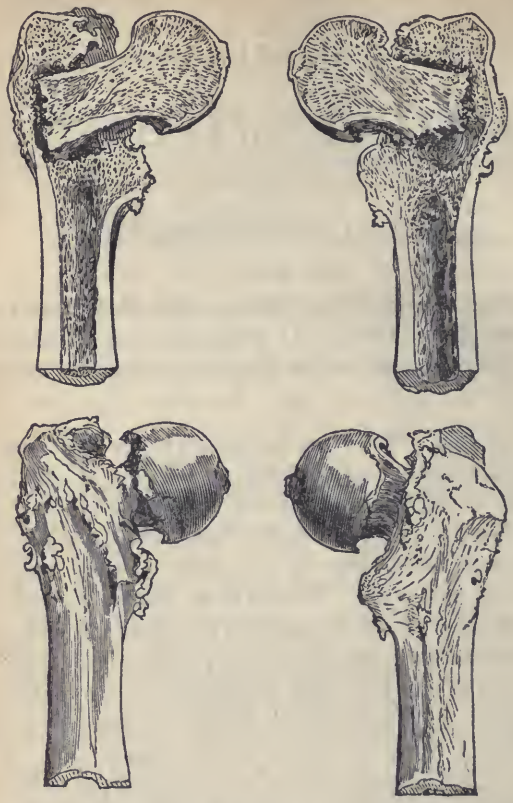
MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Case of Impacted Intracapsular Fracture of the Neck of the Thigh Bone. By GEORGE ROSS, A.M.,M.D., House Surgeon, Montreal General Hospital, Attending Physician Protestant House of Industry and Refuge.

On the 2nd July, 1868, I was summoned to the Protestant House of Industry and Refuge to see an old man named John H., æt. 79, who had slipt and fallen on the floor, and was said to have been bruised on the hip. I found him lying in bed where he had been lifted, complaining of pain over the region of the left hip: he was unable to stand upright and the attempt to do so gave pain. There was no shortening, and very slight eversion of the foot. I was not satisfied that there was fracture, so prescribed an evaporating lotion and saw him the next day. There was now marked eversion of the foot, some shortening and considerable swelling over the hip-joint, which was painful. I had him removed at once to the Montreal General Hospital, where he was placed under the care of Dr. Wright. Upon proper extension and rotation by an assistant distinct crepitus was now got. This confirmed the diagnosis of intracapsular fracture of the neck of the femur. He was laid upon a hair mattress and moderate extension was made by means of a pulley and weight, the limb being steadied by a light splint placed along the outer side. This was kept up for between three and four weeks when, it having become irksome and a small bedsore having been formed, it was discontinued, but he was still confined to bed. In two weeks more he was allowed to get up—the slight bedsore soon healed, his appetite improved somewhat, but his general health remained very poor. He never could bear any weight whatever on the limb, and there was shortening about 1½ inch. On the 12th October he was discharged from the hospital, returning to the institution whence he had been brought. From this time he gradually failed, and finally died on the 16th November, 1869, 137 days after the accident.

I removed the upper part of the femur, made a section of the bone, and of it the accompanying plates furnish an accurate representation.



A description of the woodcut is scarcely needed, as it speaks for itself—The neck of the femur has evidently been fractured short off at its junction with the shaft of the bone, and the loose portion has then been forcibly jammed into the substance of the great trochanter. When examined, the head of the bone could without difficulty be moved in its new position, but still it was found that there existed a considerable amount of strong new fibrous tissue between the broken ends. The case is interesting, as showing how an attempt at union was made in this fracture in a man of nearly 80 years of age and in very feeble health, and also I think as showing how, by thorough impaction, such as existed, doubtless, in this case, a condition of things might be established which would render it *possible* for an intracapsular fracture to become united by bone, contrary to the ordinary experience in such cases, and contrary

to the absolute dictum of some high authorities. Of course there was no bony union in this particular instance, but I think we may conceive that in a somewhat younger person and one possessing more vigor, actual osseous union might be looked for under parallel circumstances.

HOSPITAL REPORTS.

SURGICAL CASES OCCURRING IN THE PRACTICE OF THE MONTREAL GENERAL HOSPITAL, UNDER THE CARE OF G. E. FENWICK, M.D.

Case No. 6.—*Excision of the Knee-Joint.* Reported by Mr. J. H. MATHIESON.

William H., aged 23, fair complexion, red hair, was admitted into the Montreal General Hospital, May 23rd, 1870, with anchylosis of right knee joint.

Previous History.—He was bathing in a stream one afternoon, when eleven years of age, and remained in the water longer than usual. Felt no bad effects that night, but when he awoke the following morning his right leg was flexed nearly at right angles, and he was unable to straighten it, nor could it be straightened by the force employed. There was no pain—no abnormal sensation. A surgeon was consulted the same day, who then ordered a liniment to be applied, and afterwards proposed subcutaneous section of the ham-string tendons, but it was not consented to.

The leg is now flexed on the thigh at right angles. The bones of the leg are dislocated backwards; the condyles of the femur projecting and the patella is firmly attached by apparent bony union to the external condyle. The whole limb is very much dwarfed from arrested development; there is shortening of two inches in the thigh, and one inch in the leg. The foot is very much arched; the heel unnaturally long and projecting downwards; the toes, semi-flexed. He says he has never had any pain in the knee.

May 28th.—A consultation was held and excision of the joint deemed advisable; Dr. Fenwick, therefore, proceeded to operate. He carried a semi-circular incision from a point above the inner condyle, downwards and forwards over the lower border of the patella, and up on the outer side to a point opposite the place of starting. He then dissected the flap up, over the patella, divided the lateral ligaments, and turned out the ends of the bones; with butcher's saw he cut throught the extremity of the femur, from behind forwards at right angles to the axis of the bone. Similarly he removed a thin slice from the head of the tibia, but finding that some disease remained, a second portion was removed. It was found necessary to divide the ham-string tendons so as to place the bones in position; the wound was then washed with carbolic acid lotion, and the flap secured

by metallic sutures. A roller was then applied to the leg and thigh, and the limb arranged in the splint. The splint, which was made according to Dr. Fenwick's plan, consisted of two iron bars, extending from the groin to the ankle, and bowed at the knee. To these were riveted two tin gutters, in one of which the thigh rested, in the other the leg, having a space of about four inches between them, so that the wound and the rest of the circumference of the limb were free for the application of dressings; to the lower extremity, a foot piece similar to that of a McIntyre splint was attached; carbolic acid dressings were applied; ordered milk diet, and one pint milk and one pint beef juice extra.

On examining the bones it was found that there was caries of the head of the tibia, and extremity of the femur; the inter-articular fibro-cartilages were destroyed; the patella was displaced outwards, and firmly anchylosed to the external condyle of the femur.

May 29th.—Pulse 120. The operation was followed by considerable shock, from which he has completely recovered. There has been very little oozing of blood; he has considerable pain; got a draught of liquor morphiæ last night, and slept soundly four hours.

May 30th.—Pulse 114 and fuller; tongue furred and dry; surface hot: not so much pain as yesterday; the wound looks well; two of the stitches were removed.

May 31st.—Pulse 112; slept well; pain same as yesterday; skin moist and hot; appetite improving.

June 1st.—Pulse 116; he is restless and feverish, did not sleep much last night; great pain and considerable spasm of the muscles of the thigh; the remaining stitches were removed; there is now a free discharge of pus.

June 2nd.—Pulse 100; slept well; tongue clean; surface moist; pain much less; a part of the wound about the centre of the flap appears to be healing by primary union.

June 3rd.—Pulse 96; he is much better; there is less pus than there has been the two past days and it is becoming thinner, and less healthy.

June 4th.—Pulse 88; tongue clean; bowels regular; has very little pain; the knee is slightly bent outwards; a narrow slough, about an inch in length, has formed on the margin of the flap at its inner extremity; by slight pressure upon the flap about ℥ ij. of sanious pus, containing some bubbles of gas, escaped; ordered to inject lotio acidi carbolic (1 x 40). The injection passed freely from one side of the wound to the other, and washed out a large quantity of dark grumous pus.

June 6th.—Pulse 90; a little more irritable to-day, but not more pain. Dr. Fenwick changed the whole of the dressings; while arranging

the splint, a spasmodic twitch of the muscles, causing slight motion in the joint, made it bleed; the bleeding appeared to be from the granulations, and soon stopped, only about ℥ iss. of blood was lost. A large quantity of pus escaped; the slough along the flap is extending; dressings to be applied at ordinary temperature; lemonade, 1 pint porter, mutton chop.

June 7th.—Pulse 86; much more comfortable; passed an easy night, there is a greater amount of discharge and it contains some coagulated blood; the tendency to sloughing in the flap is arrested.

June 9th.—Pulse 88; sleeps well; has very little pain; the discharge is diminishing, and becoming more healthy.

June 11th.—Pulse 88; very restless; slept but little last night on account of the pain; the discharge is about the same in character and amount; an opening has formed in the popliteal space through which the greater part of the pus escapes; tongue lightly furred; bowels opened to-day.

June 14th.—Pulse 88; is much better to day, but complains of shooting pains through the whole limb; the amount of pus is diminishing.

June 18th.—Pulse 96: Is very irritable; says he did not sleep any last night; appetite is gone; shooting pains through the whole limb, from the hip downwards; about the same amount of pus, but it is more ichorous.

June 20th.—Pulse 100; tongue clean; appetite better; complains still of the shooting pains; the inner extremity of the wound has ceased to discharge pus; there is still a little from the outer; it seems to form in, and occupy a sac at the outer side of the knee, about an inch and a half above the wound; there is some discharge from the opening beneath, but not so much as before; the slough which had formed on the margin of the flap is entirely removed; the wound there shows a tendency to gape; brought the edges together with a strip of adhesive plaster.

June 21st.—Slept well last night; shooting pains are nearly gone.

June 22nd.—Pulse 100; says he did not sleep last night on account of the intense pain; he got a draught of morphia at 10 p.m. and another at 4 a.m.; Dr. Ross changed the dressings to-day; the union appeared to be tolerably firm; two strips of plaster were applied to bring the wound together.

June 28th.—Appetite good; sleeps well; occasional shooting pains; rather more discharge from the popliteal opening, but scarcely any from the others; the sac is diminishing in size, and the part feels firmer; the swelling in the knee is going down; ordered to dress with red wash.

July 4th.—Pulse 92; pain is rather greater, and more discharge from the external orifice of the wound. It appears to be forming in the sac again; is more creamy and thicker than before.

10th.—Has been very well and in good spirits the last few days; eats heartily; tongue clean; pus is healthy, and only amounts to about 3 ss. in twenty-four hours.

12th.—Another opening has formed in the popliteal space, internal and posterior to the last, and about three quarters of an inch from it. A large quantity of pus escaped from it when it opened.

16th.—Pus continues to form above the wound on the outer aspect of the thigh, and does not escape freely. There is not much discharge from the politeal space. Dr. Fenwick passed a seaton through the outer angle of the wound, and out at the top of the knee, passing through the collection of pus; ordered six ounces of wine; porter to be omitted.

19th.—Dr. Ross removed the metal splint to-day and moulded a pasteboard splint to the inner side of the leg, extending from near the groin to the ankle, replaced in the metallic splint, and secured it as before with a roller. A little pressure was exerted on the knee by a many-tailed bandage, over the dressings. The discharge is about as usual; he is getting more irritable and has less appetite than before.

25th.—There is very little discharge from the inner extremity of the wound, and that from the popliteal space is diminishing; the principal part now comes from the external wound. A large cauliflower-like excrescense has formed at the outer wound just beneath the seaton.

27th.—Pulse 102; did not sleep well; has considerable pain; there is an increase in the amount of pus, and it is streaked with blood. Appetite is not so good; tongue furred; bowels regular; ordered to be dressed thrice daily with red wash.

August 3rd.—Improving; appetite returning; pus diminishing. He continues to get morphia each night, and will not sleep without it.

6th.—There is very little change in the general symptoms; the dressings were all removed; the limb put up in a pasteboard splint as before, and a piece of Chassaignac's drainage tube substituted for the seaton.

8th.—Is improving in health; was sitting up yesterday on a chair for a few hours; there is rather less pus, and it is very thick; the excrescense is getting smaller; the inner extremity of the wound has opened somewhat, and is now an indolent looking ulcer about an inch long, and half an inch wide: the limb was suspended to-day by cords passed through rings in the splint, which allows him to move around freely in bed and releaves the poplitral region from pressure.

15th.—The original wound has opened at a point about half an inch

anterior to the point of entrance of the drainage tube, and about 3j of pus has been discharged. He goes out on the gallery each day for a few hours.

26th.—All the dressings were removed, and the bones were so firm that the farther use of the splint was considered unnecessary; there is still a good deal of discharge from the outer wound; the one on the popliteal space is healing slowly, and the granulations on the inner one are less pale and soft; the drainage tube was removed.

September 28th.—A collection of pus is forming over the knee; Dr. Fenwick opened it to-day; ordered one pint of porter instead of wine.

October 8th.—His health is very good; the openings are healing very slowly. He has considerable pain in the course of the external popliteal nerve and its branches.

November 14th.—He has been going out for a walk daily for more than a week, and with a crutch and a stick gets along very well; the appearance of the knee is not much altered; the few sinuses still discharge a small quantity of ichorous pus; the one in the popliteal space is healed. The limb is three and three quarters ($3\frac{3}{4}$) inches shorter than the other.

December 14th.—The foot is so much arched, and the toes semi-flexed, that he walks on the tip of the heel and ends of the toes. Dr. Fenwick divided the plantar fascia and short flexor subcutaneously and straightened the foot.

December 28th.—He has had a boot made which keeps the foot straight, so that he can walk on it with comfort. The knee has a number of scars on it and several small openings which are indolent, from the low vitality of the part. His health is imprvoing rapidly.

Case 7.—Comminuted Fracture of the Tibia and Fibula. Reported by Mr. J. H. MATHIESON.

G. H., æt. 29, a carter, was admitted into the Montreal General Hospital on the 15th November, 1870, suffering from a comminuted fracture of the right leg. He is a healthy man, dark complexion, medium size, strong and muscular. While sitting on the front of his cart, his horse became restive and kicked; the cork of the horse's shoe caught him on the inner side of the right leg between the middle and lower third; both bones were broken—the tibia into several pieces, and an abrasion of the soft parts occurred, which, however, did not communicate with the bone. There was very free motion at the point of fracture and crepitus was quite distinct; the limb was shortened and deformed in appearance. The soft parts were very much bruised, and a large subcutaneous ecchymosis existed. The house surgeon, Dr. Ross, reduced the fracture and placed the limb in a fracture box, packing it with bran; the abrasion was

dressed with a mixture of one part of carbolic acid, to forty of linseed oil; this was applied with lint and covered with oil silk.

Nov. 16th.—The leg is very much swollen; there is some pain, redness and heat, but altogether he was tolerably comfortable; had rested indifferently during the night. The dressings to the leg of carbolic oil were directed to be continued, and as the limb appeared to be in good position, no change was made. From this date he progressed favourably; he was ordered good nourishment, and as the secretions were active, no medicine was deemed necessary.

Nov. 28th.—He complained to-day of slight uneasiness, and pain over the malcoli, so that the form of splint was ordered to be changed. The leg was taken out of the box splint, and put up with an external and internal moulded wooden splint. The malcoli were uninjured, but the wound looked rather indolent; large flabby granulations existed around, which were touched with nitrate of silver, and red wash ordered.

December 5th.—The cellular tissue beneath the skin and corresponding to the seat of injury has sloughed and has come away, subcutaneous sinuses are left both above and below the position of the wound. Dr. Fenwick ordered them to be injected with a watery solution of carbolic acid, one to forty. This was regularly attended to, and the sinuses appeared to gradually heal up.

Dec. 19th.—The discharge from the wound is very slight; the sinuses no longer exist; the fracture is united and tolerably firm; the limb was put up on a starch bandage with paste-board, moulded splint to the outer side of the leg; after the bandage had dried, a square opening was made over the site of injury to the soft parts, to permit dressing of the wound which is not quite healed.

On the 31st December, it is stated the wound is quite healed; the union of the bones is firm, and there is no shortening; the patient hopes to leave the Hospital at an early date; he can bear good pressure on the leg, but still walks with a crutch and stick.

Case 8. — *Compound Comminuted Fracture of Tibia and Fibula. Delirium Tremens, Death.* Reported by Mr. J. R. Hamilton.

Mary H., æt. 35, a spare, ill-nourished woman of intemperate appearance was admitted into the Montreal General Hospital on the 10th December, 1870, suffering from a compound comminuted fracture of the lower end of the tibia; the fibula was broken about the middle third. The upper fragment of the tibia, which was sharp and angular, was projecting through the soft parts at the inner side of the leg about two inches above the ankle joint—the wound in the soft parts was angular and jagged; it was found impossible to reduce the fractured extremity of the bone,

so that Dr. Fenwick, the attending surgeon, removed about a third of an inch of the shaft, and also several small spiculæ which were lying detached from the periosteum and sticking in the soft parts. The wound was then freely injected with a solution of carbolic acid, one to forty of water; the edges of the tear brought together with wire sutures and dressed with carbolic acid lotion and oil silk; the leg placed on a McIntyre splint, and the patient put comfortably in bed; as she was still suffering from the effects of liquor, nothing was ordered except beef tea, and if necessary a morphia draught at night.

The patient had been brought to the Hospital by the police, and upon inquiry it was found that she had been picked up in a state of intoxication. Her leg had been broken by a fall, and it was supposed that it had been converted into a compound fracture through attempts at walking.

Dec. 11th.—Passed a restless night; had not slept. The limb is very much swollen and considerable oozing of blood from the wound had occurred. The bandages were re-adjusted, as in her delirium they had become displaced. Pulse 108; tongue dry, and covered with a brownish fur. The skin was hot and dry; the eye presented that peculiar wildness of delirium tremens. The pulse was rapid but had considerable volume, and there was much delirium, so that she had to be constantly watched. The delirium was of a low muttering character, with an occasional outbreak of violence. The following was ordered:

℞ Chlr. Pot. ʒ i; Ant Tart. gr. ii; Tr opii ʒ ii; Aqua. ad ℥ viii. .....M. Ft. Mistr.

A tablespoonful to be taken every three hours. The bowels had acted freely in the morning; beef juice was to be given freely. Also a pint of porter and also whiskey if necessary.

December 12th.—The patient had not rested throughout the night; there was low muttering delirium, the pulse was 136. In the night she got out of bed and attempted to leave the ward; this occasioned displacement of the fracture, and was followed by some hæmorrhage; the leg had to be readjusted. Stimulants and nourishment were given freely, but the patient gradually sank, and died at ten o'clock that night.

On examining the bone after death the fracture of the tibia was found to be partly oblique and partly transverse. The upper fragment was long, sharp and angular, and in the act of walking had apparently been forced into the cancellous structure of the lower fragment; this had occasioned a longitudinal fracture of the lower fragment, extending into the ankle joint. The fibula was broken, as had been supposed, at or about the middle third.

Case No. 9.—Rheumatic Arthritis of the Hip Joint treated with rest.
Reported by Mr. A. J. CATTANACH.

Daniel McColl, aged 14, a boy from the country, was admitted into the Montreal General Hospital on the 1st of October, 1870, suffering from hip joint disease.

History.—In September, 1868, the patient was attacked with a severe form of acute rheumatism, which lasted for about a month, after which he gradually began to improve, but complained more or less of a pain in the right hip joint. He continued in a weakly state throughout the subsequent winter, scarcely ever going out of doors, but confining himself chiefly to the house. In the following spring he began to improve slightly, took more out-door exercise, but still complained of pain in the hip on the slightest exertion, which subsequently subsided on giving rest to the joint. In June, 1869, he appeared to be so much improved that his parents decided to send him to a school which was three miles distant from the house, and which he continued to attend till August, walking there and back every school day, but always complaining of pain and tenderness in the evening after returning. After the summer holidays he was not allowed to attend school, as his physician gave orders that he should remain at rest as much as possible for a month or two. This he continued to do during the winter of 1869 70, but still had more or less pain in the right hip, with painful twitchings and startings in the limb at night. In May, 1870, was ordered by his physician to try salt-water bathing, and in July was sent to River du Loup, continued there for about a month or more but without any improvement, and does not appear to have improved since then up to date of his admission into hospital. Patient had always been weak and delicate, possesses all the characteristics of a highly scrofulous diathesis; has had open sinuses on the right arm for upwards of a year, from necrosis of the humerus and from which several small spiculæ of bone have from time to time been discharged. His parents appear to have been healthy, so also his brothers and sisters, but his mother's family appear to have been more or less subject to rheumatism.

When admitted to hospital the patient presented the following symptoms. The attitude of the afflicted limb was characteristic of hip joint disease in the third stage, it was considerably adducted, so that the knee was brought against the lower part of the sound thigh; knee joint was slightly flexed and carried in front of the opposite limb, and foot raised and supported on the points of the toes, the crest of the ilium on the affected side was about three inches higher than the level of the sound side. The nates also were very much flattened over the diseased side, and patient complained of great pain both in hip joint and knee, which was greatly aggravated upon the least motion of the limb.

October 3, Dr. Fenwick stated, he purposed treating this case with absolute rest, and at the same time he should attend to the general health of the patient. In order to carry out these views, it would be necessary to divide the tendons of those muscles which from apparent irritability had become contracted, and which retained the limb in its present position. After having divided the tendons he purposed to place the limb on a long splint, with a pulley and weight attached. He thought that a weight of about 4 or 5 lbs would be sufficient. This was accordingly done. The patient being placed under chloroform, the tendons of the adductor longus and pectineus were divided subcutaneously, and the limb adjusted in a long splint with weight attached.

October 4.—Rested badly throughout the night; suffered much from pain and starting of muscles of limb.

October 5.—Passed a better night, limb still rather painful, but less so than yesterday; the bowels have acted, and the general symptoms are satisfactory. Takes nourishment well.

October 12.—The patient is slightly feverish, the skin hot and dry—tongue coated with a yellowish fur, and feels depressed. Bowels had not acted for two days. An aperient draught was ordered, and the following mixture: chlorate of potash, nitrate of potash; of each ℥ i; water, ℥ viii; a table-spoonful every three hours. This mixture was continued for two days, when the symptoms above indicated subsided. The case progressed favourably from this time up to the 5th November, when the boy had a slight attack of cold, with sore throat, which readily yielded to a diaphoretic mixture and gargle. The position of the limb is now natural, he lies straight in bed, and there is no apparent difference in the length of the limbs. The treatment by extension was faithfully maintained up to the 18th November, when the splint and bandages were removed. On examining the limb the joint was found stiff but did not give much uneasiness on gentle motion.

November 19.—Dr. Fenwick ordered the limb to be put up in a starched bandage, with pasteboard splint; this was done so that the boy could leave his bed and enjoy exercise. A pasteboard splint was moulded to the body, and extended over the front of the thigh, from the crest of the ilium to the knee. This was applied with a starched bandage. By this means all motion of the affected joint was prevented. The following day he left his bed and sat in a chair. Does not complain of pain; from this date he walked about the ward on crutches, his general health has much improved. He appears cheerful and is getting fat.

December 16.—The starch bandage was removed, and the limb examined. The patient expressed himself as feeling comfortable; he can lean

the weight of his body on the limb, without any pain, and could walk without a crutch, except that the joint feels stiff, and he is afraid to trust himself. The limb was again put up as before, and the boy was permitted to return to his home, in the country, with instructions to retain the bandages on the limb for a few weeks longer.

PROCEEDINGS OF THE MEDICO CHIRURGICAL SOCIETY OF MONTREAL.

MEETING HELD DECEMBER, 22ND, 1870.

The Vice-President, Robert Godfrey, Esqr., M.D., in the chair.

Francis W. Campbell, M.D., L.R.C.P.L., read the following paper on

EXTERNAL DIVISION OF SCRICTURE—DEATH ON THE 6TH DAY.

Patrick McGill, aged 35 years, presented himself for the first time in July, 1867, at my surgery, suffering from retention of urine. He had just arrived from Quebec, and had not made any water since leaving that city, the previous afternoon. He was in great distress, the bladder being largely distended. He informed me he had several strictures, and that only a small sized catheter would pass into the bladder. After considerable difficulty I succeeded in passing a No. 3 catheter, and drawing off a very large quantity of urine. The first stricture was situated about a quarter of an inch from the meatus, the second about one half inch below the meatus, and the third about the junction of the membranous with the bulbous portion of the urethra. He gave me the following history. In 1860, he contracted gonorrhœa, which he treated himself by injections of acetate of lead. The cure of the disease was slow, gleet supervening, and lasting many months. About a year and a half from the appearance of the gonorrhœa, he first noticed a difficulty in making water, the stream being twisted; this gradually increased til 1862, when he sought medical aid; gradual dilitation was made use of, and a very marked improvement took place. He, however, became dissipated in his habits, neglected to attend to his disease, and the result was, the return of the strictures. Although suffering considerably, he did not make any further application to any medical man, save on two or three occasions, when he had retention from over distension, when the catheter was with difficulty introduced and the urine drawn off. At the time of his first visit, there were two fistulous openings in the scrotum through which the urine dribbled away in considerable quantities. I advised his attention to his disease, and the patient left. I did not see anything of him till April of 1868, when I was sent for to attend him. I found him suffering from an attack of infiltration of urine; the scrotum was swollen, and œdematous, and the urine had escaped into the

cellular tissue of the abdomen, which had a reddish erysipelatous look. There was the usual constitutional disturbance. I made free scarifications over the scrotum and abdomen, through which considerable quantities of fœtid urine escaped, and applied hot fomentations. Dr. Craik during this attack saw the patient with me in consultation. His recovery was slow. When perfectly convalescent, I attempted to pass a small catheter, and with much difficulty got through the first stricture, which I found was highly cartilaginous, but all my efforts to proceed further were unavailing. I then explained to him what I considered to be the only thing that would afford him relief, viz: the operation for perineal section. In July of the same year, he entered the Montreal General Hospital with a view of having it performed, but only remained one day. He soon after began his dissipated habits and I saw nothing of him till May, 1869, when I again attended him for infiltration of urine. This time the extent of infiltration over the abdomen was much greater than it was during the previous attack, and the constitutional disturbance much more serious, the symptoms being typhoid in their character. I again scarified freely, and after a tedious convalescence he was once more enabled to go about. In the fall of 1869, he called upon me and expressed his desire to have the operation performed, immediately after the new year, as in his present condition his life was a miserable one, but a return to his bad habits prevented its accomplishment. A few weeks ago he again expressed a desire to submit to it, and as he had been perfectly regular in his living since last spring, I consented to perform it. On the 18th of November, Dr. Fenwick saw the case in consultation, and agreed with me, as to its being a suitable one for the operation. Upon the 27th of November, assisted by Drs. Fenwick, Craik, Ross, Roddick, and Rodgers, I performed what is now generally known as Syme's operation for perineal section or external perineal urethotomy. The patient being well under the influence of chloroform, Syme's stricture staff was passed with some difficulty through the strictures till its shoulder rested well up against the upper part of the third. I then cut down through the perineum, and without much difficulty reached the staff, and having inserted my knife in the groove, divided the stricture, the shoulder of the instrument passing instantly through it. Previous to withdrawing the staff, I passed a director through the wound, and into the posterior portion of the urethra. This served as an excellent guide to the passing of the catheter. The staff was withdrawn, and a No. 8 Catheter passed, when several ounces of urine came away. It was secured in the usual manner. Considerable difficulty was experienced in passing the instrument through the two undivided strictures, and the existence of several false passage

in the prostatic portion gave some trouble. The amount of hæmorrhage was not excessive. The patient was put to bed, and the wound dressed with carbolic lotion ʒ ji. to ℥ viii of water. The room was darkened and the most perfect quiet enjoined.

Evening.—He passed a tolerably comfortable afternoon, with the exception of irritability of the stomach, which will not retain anything. Believing this due to the chloroform did not order medicine. Urine has passed freely through the wound, but none through the catheter. Skin cool; pulse 94.

November 28th.—Passed a restless night, owing to the continued vomiting; bowels moved early this morning, but could not use the bed-pan, so was lifted and made use of a chamber; wound looks well, a little urine passed through the catheter when I removed plug. Does not complain of anything but the vomiting; pulse 98; tongue lightly coated; ordered small draughts of soda water and milk: Evening;— is easier: vomiting not so frequent; has retained a little beef-tea; pulse same as in morning; ordered a grain of opium in pill at bed time.

November 29th.—Says he is decidedly better, passed a tolerably comfortable night; vomiting ceased entirely, but a nasty hic-cough troubles him, frequently coming on during sleep; wound looking remarkably well; urine coming copiously through wound, and to some slight extent through the instrument; tongue still coated with a white fur; pulse has fallen to 80; did not take out the catheter to day as it was decided on the day the operation was performed to allow it to remain in for four days, owing to the difficulty experienced in passing through the two anterior strictures.

Evening.—In much the same condition as at morning visit; complains much of the hic-cough; pulse is somewhat higher, being again 98; ordered a drachm of Hoffman's anodyne (Spts. Ether Sulph. Co.) with a drop of hydrocyanic acid.

November 30th.—Had several hours sleep last night; hic-cough is better; wound is granulating, and in every respect looking well; urine comes freely through opening, little through catheter; bowels moved twice early this morning; cannot use the bed pan; pulse 98; tongue looks much as it has from the first, a light white fur covering it; takes nourishment in small quantities often repeated, and retains it.

Evening.—Patient not so well; hic-cough returned during the afternoon, and is very troublesome, recurring every ten or fifteen minutes; skin is hot and dry, and his pulse has risen to 120; tongue more thickly coated, still white; is very thirsty, has not had anything approaching a rigor; urine is flowing freely through wound, which still looks well, also

to some extent through catheter when the plug is removed; no abdominal tenderness; ordered a drop of Fleemings tincture of aconite, every three hours, and toast water to drink.

December 1st, 10 a.m.—Patient slept at brief intervals during the night; hic-cough still persistent; heat of skin less, and some signs of perspiration, pulse 120; tongue same as previous report; on examining the abdomen there is slight tenderness over upper portion upon superficial pressure, which is relieved by continued deep pressure; has no pain unless when pressure is made; no tenderness over bladder and lower portion of bowels; wound looking well; took out the catheter; the aconite to be continued, and to have beef essence at short intervals.

2 p.m.—At my request Dr. Fenwick saw the patient in consultation when his condition was much as reported at 10 a.m., save that there is now copious perspiration; brandy in tea spoonful doses was ordered every half hour; beef juice also to be continued. Dr. Fenwick expressed himself favourably as to the issue; aconite discontinued.

6 p.m.—There is a slight improvement; hic-cough is better, not being so frequent, and pulse has fallen to 115.

11 p.m.—Is evidently still better; tongue looks as if it were about to clean; only had hic-cough once during the past two hours; pulse is 108 and weak; still perspiring freely. To be well watched during the night, and to have nourishment, and stimulants regularly every two hours, and oftener if he showed signs of weakness.

December 2nd, 10 a.m.—There is a decided change this morning for the worse, although the report is that he passed a fair night. The pulse has risen to 130, and is small in volume, and the perspiration is profuse: warm on body, but cold and clammy on hands and face; no alteration in appearance of tongue, which is better than two days ago; wound looks nicely, and urine passes freely; to have his brandy increased to half an ounce every half hour, and beef juice at intervals.

1 p.m.—Dr. Fenwick again visited my patient in consultation. Condition same as at 10 a.m.; pressure upon abdomen gave same results as noted on the 1st.; hot fomentations were directed to be applied over the upper part of abdomen, otherwise to continue as before.

6 p.m.—Is evidently failing, although he expresses the belief that he is no worse; retains all the nourishment given him.

10 p.m.—The fatal termination of the case is now only a question of a few hours, the hic-cough is again exceedingly troublesome, coming on every few minutes; pulse is difficult to count and very feeble; voice is husky, and the perspiration cold and clammy; intellect is perfectly clear.

December 3, 1.30 a.m.—On calling at this hour, I learned he had

just expired. Till within an hour of his death he was perfectly conscious.

Post Mortem.—Sixteen hours after death. On opening the abdomen there was evidence of peritonitis, recent adhesions, especially at the upper part of the bowels, with a few patches of effused lymph. The liver was about normal size; both kidneys were examined, and appeared normal in size. On cutting into them Drs. Fenwick and Ross, (who were present) believed they exhibited signs of commencing fatty degeneration. On this point I was not clear. Prostate gland examined, and found in a condition such as might have been anticipated from such an old case of urinary disease. The coats of the bladder were much hypertrophied, and the prostate considerably enlarged.

Remarks.—This case is interesting to the profession, as an example of a usually successful operation, proving fatal from a most unusual cause. Various authors in describing the operation, allude to its possible fatality, mentioning as causes from which deaths have occurred:—shock, erysipelas, pyemia, and urinary infiltration, but I find no mention of any case terminating fatally from peritonitis. Carelessness in passing the staff into the bladder after the division of the stricture, might so wound it as to set up peritonitis, and to prevent such contingency, I need hardly say my friend Dr. Fenwick, who had charge of it, was fully alive. The late Professor Syme, who introduced this operation, in his admirable "Clinical Observations," issued in 1861, states that when he first performed it, he simply recognized as sources of danger, hemorrhage, and urinary infiltration, both of which might to a certainty with care be prevented. In time, however, he recognized another source of danger vividly brought to his attention by the death of a gentleman upon whom he had operated. He thus describes it: "I was unexpectedly lead to recognize another source of danger, which could not possibly have been anticipated; this is constitutional disturbance, proportioned in degree to the patient's excitability, and induced by the irritation of urine breaking through a recently established union between the cut edges of the urethra. The ordinary symptoms of this are rigors, vomiting, and quick pulse." In the case just detailed my patient did not have any rigors, and the vomiting which occurred for the first thirty hours I still believe to have been due to the chloroform. Indeed if the history of the case be examined carefully it will be found that my patient progressed as favorably as could have been anticipated for the first three days, when the pulse rose from 98 to 120. At this time there was no abdominal tenderness whatever, and indeed when it did make its appearance the following day it was limited to the upper portion of the bowels, and

was relieved upon deep pressure. I was therefore inclined to look upon it as due simply to over distension from the large quantity of fluids taken. It was not till twelve hours preceding his death, that Dr. Fenwick or myself entertained the idea that sub-acute peritonitis was present, and even then we entertained hopes of his recovery from the apparent non-activity of the disease. To account for this apparently rare complication is a matter of some difficulty, yet it is just possible that being unable to make use of the bed pan, and having had each time his bowels were moved, to be uncovered, lifted and placed upon a chamber, that this exposure brought on the peritonitis, which carried him off. Certain it is that it was an accidental complication, which so far as I can see, no foresight could have prevented. With regard to the operation itself the only point worthy of note was the introduction of a director through the wound into the posterior portion of the urethra, previous to the withdrawal of the staff, as recommended by Erichsen. The facility with which it guided the passage of the catheter into the bladder, was such as to thoroughly commend its adoption.

Dr. FENWICK said he had performed this operation eleven times, principally in the Hospital. He stated that being present and assisting at the operation, it was performed with all care, and he looked for a successful issue. He could not account for the peritonitis in this case; it was certainly not due to wound of the peritoneum, as he had himself carefully inspected the parts, and none such was to be found; further if it were from extension of inflammation from the bladder, we would expect to find some pelvic cellulitis, or positive evidence of inflammatory action in the bladder, but this was entirely absent; a large amount of effused lymph was found on the small intestines.

Dr. CRAIK had known the patient and his history for a considerable period; had attended him eight years ago for strictures which were exceedingly irritable in their character; found that introduction of catheter was frequently followed by rigors and fever; his constitution was an excessively irritable one, and he had been very intemperate; in his opinion this condition of his system had had much to do with the unfavorable result. Remembered a case of perineal section under the late Dr. Crawford, which occurred in the General Hospital, and proved fatal. The operation was performed for acute retention of urine, following rupture of the urethra, the result of a fall; within twenty-four hours symptoms of blood poisoning showed themselves, from which the patient did not rally, but died comatose.

Dr. HOWARD would ask more particularly what was the state of the mucous membrane of the urethra and prostate? If unusual inflamma-

tion were found in the bladder and prostate, we might suppose the peritonitis to be from extension; any operation in the pelvis was liable to be followed by peritonitis. Operations for fistula in ano have occasionally proved fatal in this way.

Dr. HINGSTON looked upon the operation as a formidable one; for himself, would rather perform lithotomy; he had never operated till a few days ago, having with the exception of the case alluded to, succeeded in curing the stricture by gradual dilitation. The case in which he had performed the operation was one of stricture, the result of an injury; had experienced severe hæmorrhage, which necessitated the plugging of the wound; would ask Dr. Fenwick for what class of cases he operated, and whether for *elastic* strictures as the number appeared to him to be large.

Dr. FENWICK.—Of seven cases he called to mind at the moment, in two he could not pass an instrument at all, in another there was complete obliteration of the urethra, about one inch in extent, commencing about one and a half inches from the point of the penis; was obliged to cut down and find the urethra, pass a director forwards and slit it up, then passed a large catheter; did not generally operate for elastic stricture; always adopted the plan followed in Dr. Campbell's case of first passing a director into the bladder to act as a guide, before withdrawing the staff.

Dr. MCCALLUM had operated four times; two recovered without a bad symptom; in the other two there were severe rigors and high fever. All recovered.

Dr. DRAKE said he had operated twice; one case was that of an old man, who suffered from severe chronic cystitis; he recovered completely from the operation, but died some considerable time after from the bladder affection. His second case was one in which Dr. Fenwick had operated some two years before, but the man had allowed the stricture to contract; had tried Holt's dilator without success as the stricture proved to be resilient; he made a good recovery.

Dr. SCOTT has operated successfully by cutting on the end of a catheter where no staff could be got into the stricture.

Dr. HOWARD thought distinction should be made between operations for traumatic lesions and those for ordinary stricture. Had never seen any considerable hæmorrhage in the cases at the General Hospital; had seen Smith, of London, operate in one case where severe hæmorrhage occurred.

Dr. HINSTON was glad to find that the results of this operation in Montreal had been satisfactory; he believed them to be better than those attained across the Atlantic. would ask if fistulous openings had been often found to remain? Also how long the catheter was generally left in after the first introduction?

CASES OF EXCISION OF THE KNEE JOINT.

MONTREAL GENERAL HOSPITAL.

Operation performed 17*th May*, 1865.

Photograph taken 20th October, five months after.

CASES OF EXCISION OF THE KNEE JOINT.

MONTREAL GENERAL HOSPITAL.

Operation performed 17*th May*, 1865.
Photograph taken 5th December, 1870, five years after recovery.
Shews muscular development of limb.

CASES OF EXCISION OF THE KNEE JOINT.

MONTREAL GENERAL HOSPITAL.

Operation performed 11th May, 1865.
Photograph taken 5th December, 1870, five years after recovery.
Shews musular development of limb.

Dr. Francis W. Campbell in summing up the debate, said the very gratifying fact had been elicited that a large number of successful operations of perineal section had taken place in Montreal. The great point of interest in his case was the origin of the peritonitis, and as there was no question as to its not being due to wounding of the peritoneum, some other cause had to be looked for. He very willingly admitted the liability to peritonitis in all operations about the pelvis, as mentioned by Dr. Howard; this with the irritable character of the patient's constitution, and a somewhat careless exposure, as alluded to in the paper, all combined to set up inflammation of the peritoneum. He hardly agreed with Dr. Hingston in considering it a very formidable operation, although one not to be undertaken without much consideration, for Professor Syme, to whom the introduction of the operation was due, had up to 1863, operated on 108 cases, with only two deaths. In other hands, however, the success has not been quite so great. Dr. Howard had enquired as to the condition of the prostate gland, and the mucous membrane of the bladder. The former was very much enlarged, and as might have been anticipated the walls of the bladder were much hypertrophied, otherwise healthy.

MEETING OF THE SOCIETY HELD JANUARY 7TH, 1871.

The President G. W. Campbell, Esq., A.M., M.D., in the Chair.

Dr. Fenwick read the following paper on

EXCISION OF THE KNEE JOINT.

Excision of the knee joint has been sufficiently often performed by surgeons both in England and America, to justify the procedure in suitable cases. By request of our president, I am induced to lay before you the results of four cases which have been operated on by myself during the last five years. The first of these cases was in a young lad of 18 years of age, who was admitted into the Montreal General Hospital in April, 1865. Seven years previous to his admission he had received a kick on the knee from a cow, acute synovitis set in, for which he was leached and treated with absolute rest; various local applications were made, and after confinement to his bed for several weeks he was able to get about; but the joint was still swollen, tender, and rather stiff. From this period he was able to walk, always, however, with a limp, and he was conscious that he could not trifle with his knee. This deprived him of joining in sports of boys of his age; slight blows or twists were followed by fresh inflammatory attacks, necessitating his remaining at rest for days.

Two years before his admission into the hospital he suffered from pain in the joint at night, and frequent starting of the limb, which interfered with his rest. These attacks were of so frequent occurrence, that worn out by annoyance he at length sought admission into the Hospital. This patient came under my care on the 1st May, 1865, and I continued the treatment which had been adopted up to the 15th of that month. It was noticed that his health was beginning to suffer from the confinement. He complained of much pain, chiefly at night, and we found it necessary to give him anodynes to secure rest. I determined to take down the limb, as it had been put up with Scott's dressings, and rested on a double inclined plane. Having removed the dressing I found the joint one inch and a half larger than its neighbour, the synovial membrane felt thickened and pulpy, and on rotatory and lateral movements of the joint a distinct roughness was detected. The examination gave much pain, which continued for some hours. The second day after this examination, on the 17th May, 1865, in consultation with the Hospital staff, it was decided to excise the joint, which operation was performed in the usual way, adopting the semi-circular incision. There is no necessity in my taking up the time of this meeting by giving a daily record of this case, as the case has already been published and will be found in the third vol. of the *Canada Medical Journal*. The object I have in repeating here the history of this case is to lay before you the results which are well shown in the photographs, which are submitted and which illustrate the muscular development and growth of the limb, as the man has increased in stature since he left the Hospital, and there is not any more shortening of the limb than there was after the success of the operation; the shortening is at present about one and a half inches, but as will be perceived on comparing the photograph which was taken six months after the operation, with the one which was taken a week or two since, the muscles of the thigh and leg have very much increased in size. The man at present can walk any distance without fatigue, and he does not use a stick.

The second case operated on was that of a young man from Quebec, aged 22, who was admitted into the Montreal General Hospital on the 18th of May, 1866. Nine years before he had suffered from an attack of acute rheumatism; the disease located itself in the right knee joint, which subsequently became attacked by periosteal inflammation; abscess formed, and several openings were made in the neighbourhood of the joint these discharged freely and several pieces of bone exfoliated. When admitted into Hospital, the joint was partially anchylosed, the limb was bent at right angles, and at the inner side of the thigh close to the joint, here existed a sinus which led downwards and outwards, and on

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examining with a probe, bare bone was found. He was anxious to submit to any operation to save the limb. In consequence of being obliged to leave the city on business, the operation was deferred until the 21st June, 1866. The case progressed favourably, and he left the Hospital with a useful limb; six months after the operation, I submit two photographs, the one taken prior to the operation, the other after his recovery. I may state that this man visited Montreal, in 1868, and at the time he walked without a stick, and could run and jump; there was very slight halt in his gait; the shortening was fully two inches; I regret that in both these cases the bones removed have been lost. In the other two cases which are still under observation, I have the bones and submit them to the meeting.

The third case was that of a young man who had suffered from rheumatism in early life. On admission the leg and thigh were found undeveloped; there was partial anchylosis; the leg was bent at right angles, and there existed shortening, by measurement, of about three inches. The limb was quite useless to him as a means of progression, and he walked with a stick; his gait was awkward and irksome, and he was anxious to submit to anything which would hold out a prospect of relief. I am indebted to Mr. John H. Mathieson for the notes of this case.*

In the fourth case the operation was performed on the 21st December last. The patient, a boy of fourteen years, had been a sufferer with a bad knee, to use the expression of his mother, since his fourth year. When first admitted, in October last, the leg was semi-flexed, exquisitely tender, he would cry out if the bed was touched; he presented a care-worn, exhausted appearance, and the knee was very much larger than its fellow, but he did not bear handling much, as it gave great pain, which lasted for hours.

There was considerable effusion into the sub-crureal pouch of the synovial membrane. Under these circumstances I placed the leg at perfect rest in the extended position, retaining it there on a well padded McIntyre splint; this had to be done under chloroform, and while he was fully under the influence of the anæsthetic I availed myself of the chance of examining the joint, when I found thickening of the tissues around the joint and marked roughness, as though from erosion, of the cartilages, both between the ends of the bone as well as between the patella and anterior surface of the condyles of the femur. The subsequent treatment consisted in absolute rest, good nourishment and warm

* The report of this case appears in this number of the Journal under the heading of Hospital Reports.

fomentations to the joint. By these means the acute inflammatory symptoms gradually subsided. Subsequently I tapped the joint with a small trochar at the inner side of the thigh and drew off a small quantity, about ℥ ij. of serous-looking fluid tinged with blood. The leg was again re-adjusted in the straight position. This apparently gave him relief, as the nocturnal pains which he had before suffered from subsided. I would have proposed excision at an earlier date, but erysipelas broke out in my wards, and I deemed it more prudent to wait. The operation was performed on the 21st December, and the object I have in drawing attention to this case, although perhaps premature, as the results have yet to be seen, is to mention the method adopted in division of the bones. It has been urged by Mr. Syme and others adverse to this operation that in a growing lad the removal of the epiphysal end of the femur and head of the tibia will arrest the subsequent development of the limb, and in one of Mr. Syme's cases, who was one of the first British surgeons to resuscitate this operation, the subject was a child of eight years, and although the operation was perfectly successful the limb remained dwarfed, so that when he arrived at full growth there was shortening of some ten inches. Having in view these facts I thought that the diseased bone could be removed, by a semi-circular sweep of the saw. With this end in view I made use of a carpenter's whip saw, which I had adjusted to Mr. Butcher's frame, and removed the end of the femur without taking away the whole epiphyses. The end of the femur after the condyles were removed, presented a convexity, and at one point the cancellous structure was found diseased so that a second small slice had to be removed. The head of the tibia was then attended to, and a slice was removed rendering it concave. After removal of this fragment the patella was also taken away, as it was found in a diseased condition; the leg was then put up in a tin gutter splint, with a vacancy opposite the knee, the upper and lower end being connected by bars of iron bowed outwards. Since the operation the leg has progressed very slowly, for the first few days I thought he would have died from shock, as he was extremely weak; his pulse ranged from 160 to 180, and even now, although suppuration and granulation is progressing slowly, and he is taking nourishment well, yet he is not as I should like to see him. In removing the end of the femur the saw was entered from the anterior surface of the condyles, and as will be seen from the bones shewn a thin slice only was removed. The tibia was somewhat differently treated, as I commenced the section from behind. It appears to me that there are several advantages to be gained by this proceeding. In the first place a very much smaller portion of the bones

CASES OF EXCISION OF THE KNEE JOINT.

MONTREAL GENERAL HOSPITAL.

Operation performed 21*st June*, 1866.

Appearance of limb before operation.

CASES OF EXCISION OF THE KNEE JOINT.

MONTREAL GENERAL HOSPITAL.

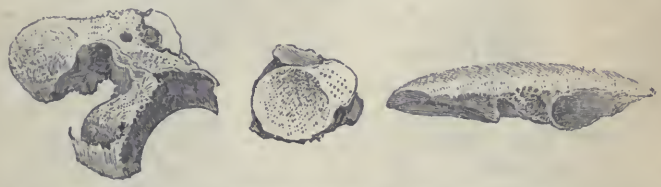
Operation performed 21st June, 1866.

Photograph taken January, 1867, seven months after.

is removed, which is of great moment, more especially in a case like that of No. 3 of this series, as in this man the development of the limb had been arrested, and there existed at the time of the operation some three inches of shortening.

Another advantage to be gained by this method of removing the diseased bone is that you secure a wider extent of surface, and furthermore from the peculiar shape of the cut surfaces there is less chance of displacement of the bones from contraction of the hamstring muscles, unopposed by the quadriceps extensor which has been divided. In the three cases reported it was with difficulty that the bones were retained in position, as in all there was a constant tendency of the thigh bone to be displaced upwards. Another advantage is that which has already been alluded to, viz., the saving as much as possible of the epiphyses of the bones in a growing individual, and it was with this end in view that I was induced to perform the operation as described in this case.

The following wood cut gives a very fair representation of the bones.



Dr. Hingston would like to ask the operator upon what he grounded his belief in the existence of disease sufficiently extensive to warrant his excising the joint in the third of the cases reported. In that case, according to the record, there was no pain and no sinus or external opening; he would ask, therefore, why might not tenotomy and *brisement forcé* have been first tried, having recourse to excision only as a *dernier resort?* The length of time for which the disease had lasted need not preclude this, for he had himself performed the minor operation in a case in which the anchylosis had existed for sixteen years.

Dr. Trenholme would ask if Parke's semi-lunar incision had ever been contemplated as capable of improving the operation. It was explained that in two of the cases reported there was considerable disease of the patella, which of itself would entirely preclude the possibility of this modified proceeding.

Dr. Girdwood thought the concavo-convex section of the bones as practised by Dr. Fenwick was decidedly advantageous, as owing to the peculiar manner in which the bones were thus fitted together, there was very much less risk of displacement, owing to contraction of the muscles, than after the old plan when the bones are sawn quite transversely.

The President said that Dr. Fenwick's cases were remarkable as a record of four successive successful operations. The operation itself is still regarded as a doubtful one by many eminent surgeons, principally for two reasons; in the first place, it not unfrequently happens that the limb left after excision is not as useful as would be an artificial leg: and secondly, in some hands, the mortality of this operation has proved greater than in amputation through the lower third of the thigh. With regard to Dr. Fenwick's novel method of sawing the bones he would remark that this plan could only be beneficially followed when there existed, as in this case, a minimum amount of disease. If the disease in the condyles was extensive, as it often is, division in the manner proposed could not be effected so as to save the epiphysis. He believes the plan a good one, rendering the co-aptation more accurate and steady than could otherwise be possible. The average time required for complete cure of these cases is about from 200 to 300 days; it will, therefore, be seen that in the cases brought under our notice, firm union and use of the limb have been acquired in a considerably shorter time than this, and therefore they may all be looked upon as *rapid* cures. The results were extremely satisfactory, and he would congratulate his friend Dr. Fenwick upon his marked success in his knee-excisions up to this time. He would mention that Dr. Cheever of the Boston City Hospital has lately given an account of six cases operated upon by him. Of the six cases, one was fatal, two required subsequent amputation, and three recovered: in one of these three cases, the patient, after sixteen months treatment, was still obliged to carry a splint. Dr. Cheever, from these results, was inclined to favour amputation in the lower third of the thigh rather than excision of the joint.

Dr. F. W. Campbell had seen all of Dr. Fenwick's cases, and was anxious to know if he could assign any reason for the more than usual shock that followed the last operation.

Dr. Fenwick in reply to Dr. Hingston, said he was under the impression that in case No. 3, he had made out distinct roughness, though he would not be certain, as motion in the joint was very limited, the tibia and fibula were dislocated backwards and the patella was firmely adherent by bony union to the external condyle of the femur; this condition was noticeable in the bones submitted. He was not favourably impressed with the minor operation as styled by his friend Dr. Hingston, as he had seen *brisement forcé* result disastrously on more than one occasion; still he freely admitted, that it was a justifiable proceeding in suitable cases, but he did not think that any surgeon would have attempted it in this case. To Dr. Trenholm he would state that no other method of operating but that described had been contemplated. In reply to Dr. F.

CASES OF EXCISION OF THE KNEE JOINT.

MONTREAL GENERAL HOSPITAL.

Operation performed 28th May, 1870.

Photograph taken February, 1871, eight months after.

CASES OF EXCISION OF THE KNEE JOINT.

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CASES OF EXCISION OF THE KNEE JOINT.

MONTREAL GENERAL HOSPITAL.

Operation performed 28*th May*, 1870.

Photograph taken February, 1871, eight months after.

W. Campbell who had asked to what he attributed the amount of shock in the fourth case which was not noticed as following the operation in the other three; he (Dr. Fenwick) would remark that shock was noticed in all the cases recorded, but in the case of the boy recently operated on it certainly was greater and was prolonged. Upon examining the record of cases published in the London *Lancet* and elsewhere, it will be found that this appears to be a peculiar feature after this operation. Shock is far greater after excision than after amputation; it appeared to him that it was this fact which induced many surgeons to regard this operation as more formidable and attended with greater risk than amputation at the lower third of the thigh. He could not agree in opinion with those surgeons, alluded to by our president, who maintained that in some cases the limb after excision was not as useful as an artificial leg. Sir W. Ferguson regards the saving of the limb, even if there is many inches of shortening as far preferable to any artificial leg, inasmuch as the patient does not suffer mutilation, and above all retaines a foot and ankle joint.

Dr. Fenwick went on to say that he would watch the last case operated on with increased interest and that he hoped at a future day to be able to lay before the members of the society the successful results.

The Society then adjourned.

CORRESPONDENCE.

To the Editors of the Canada Medical Journal.

OTTAWA, January 24th, 1871.

GENTLEMEN,—The document I send you with this note was sent to me from Toronto more than a year ago, for signature by members of the profession here. It was, unfortunately, lost for some time, and having now recovered it, I beg leave to ask you to find space for it in your valuable journal.

I remain your obedient servant,

WALTER JAMES HENRY.

TO THE PRACTITIONERS OF MEDICINE AND SURGERY OF THE PROVINCE OF ONTARIO.

GENTLEMEN,—We think it incumbent on all of us loyal to our profession to protest against, and endeavour to obtain the repeal of, those clauses of the present Medical Act which would force us into a degrading and hitherto unheard of association with persons styling themselves homeopaths and eclectics, the Act not only giving to such persons a large

representation in the Medical Council, and thereby great power in determining what medical education in this Province shall hereafter be, but also providing that there shall be a college of physicians and surgeons composed of the orthodox practitioners of medicine and surgery, and of homeopaths and eclectics *made surgeons by Act of Parliament!*—licensed surgeons of Ontario! A Medical Council or College so composed is not elsewhere to be found, and we are sure that the physicians and surgeons of all other countries would feel themselves aggrieved and degraded by a Legislative Act associating them, *nolentes, volentes*, with such persons. We, therefore, call upon you, for the credit of our profession and of ourselves, if for nothing else, to join with us in protesting against any association with a class of persons not elsewhere recognized by the practitioners of scientific medicine and surgery. The Royal College of Surgeons of Ireland, in 1861, passed an ordinance that "no Fellow or Licentiate of the College shall pretend or profess to cure diseases by the deception called Homeopathy, or the practice called Mesmerism, or by any other form of quackery;" * * * "that no Fellow or Licentiate of the College shall consult with, meet, advise, direct, or assist, any person engaged in such deceptions."—(Vide Lancet of Nov. 9, 1861.)

This is so thoroughly in accordance with our views that we hereby declare that we will not willingly meet in consultation any Homeopath, Eclectic, Hydropath, Mesmerist, or the like.

We trust that those medical practitioners who think as we do, will forward their names to any of the undersigned, with instructions that they may be added to the signatures of those who hereby join in this protest and declaration.

W. R. Beaumont, F.R.C.S., Eng. (1844, Hon.), Toronto.
Edward M. Hodder, M.D., F.R.C.S., Eng., (1854, Hon.) Toronto.
C. J. Philbrick, F.R.C.S., Eng., (1850) Toronto.
James Richardson, M.D., M.R.C.S., Eng.
W. B. Nicol, M.D.
James Thornburn, M.D., Edin. and Toronto Uni.
Wm. Canniff, M.D., M.R.C.S., Eng.
J. T. Buall, M. D., M.R.C.S., Eng.
N. Bethune, M.D., Edin., F.R.C.S., Edin, Toronto.
George Wright, A.M., M.B., Toronto.
O. S. Winstanley, M.R.C.S., Eng.
John E. Kennedy, A.B., M.B., Toronto.
J. P. Russell, M.D., Edin. (1846.)
E. J. Barrick, M.D, M.R.C.S., Eng. and Edin., L.R.C.P., London and Edinborough.
Lachlan W. Macfarlane, M.D., Toronto University.
W. Winslow Ogden, M.B.
J. Brown, M.D.
James Newcombe, M. D., L.R.C.P., M.R.C S., Eng.
James Bovell, M.D., L.R.C.P., Eng.
John Young Brown, M.D., M.R.C.S.E., M.P.
C. B. Hall, M.D.
J. Algernon Temple, M.D., M.R.C S, Eng.
Wm. Oldright, M.A, M.D.
J. N. Agnew, M.D.
A. A. Riddel.
James Allen, M.D.
A. M. Rosebrugh, M.D.
R. A. Reeve, B.A., M.D.
Humphry Ewing Buchan, M.A., M.D., L.R.C.P., Edin., L.F.P.S., Glasgow.
Geo. Ryall, A.B., M.D., T.C.D.

Operation performed 28th May, 1870.

Photograph taken May 25, 1870.

Appearance of limb before the operation.

CASE OF EXCISION OF THE KNEE JOINT.

MONTREAL GENERAL HOSPITAL.

Operation performed 28*th May*, 1870.

Photograph taken May 25, 1870.

Appearance of limb before the operation.

J. Byres Laing, A.M., M.D.
D. Mackintosh, M.D., Edin., Pres. Hamilton Med. and Surg. So.
Isaac Ryall, M.B.
Archd. E. Malloch, M.D.
G. W. Rosebrugh, M.D.
T. Crooker, M.D., M.R.C.S., Eng., L.R.C.S., Edin.
J. M. Hamilton, R.N., Surgeon.
Chas. F. Bullen, M.D., C.M.
John Mackelcan, M.R.C.S., Eng. (1827.)
E. L. Mackelcan, M.D.
Alex. C. Reid, M.D., C.M.
John A. Mullin, M.D., Hamilton.
W. L. Billings, Surgeon, &c.
Thomas White, M.D., Hamilton.
J. D. Macdonald, M.D., L.R.C.S., Edin.
David Keagey, M.D., M.R.C.S., L.R.C.P.
William J. A. Case, M.D., Hamilton.
Thos. Duggan, L.M.B., (1833.)
C. O'Reilly, M.D., C.M.
J. W. Alway, M.D., Smithville.
Enoch Alway, M.D., Smithville.
Henry T. Ridley, M.D.
E. Henwood, L.M.B.

OTTAWA, ONTARIO.

Edward Van Cortlandt, M.R.C.S. and Lic. Ap. C.
J. McGillivray, M.D., Montreal.
J. A. Grant, M.D., M.R.C.P., Lond., M.R.C.S., Eng., F.R.C.S., Edin., &c.
Æ. Macdonell, M.D.
Walter James Henry, M.D.
John Sweetland, M.D.
Alfred Codd, M.D., C.M.
E. C. Malloch, M.D., C.M., M.R.C.S.L.
J. T. C. Beaubien, M.D.

REVIEWS AND NOTICES OF BOOKS.

Spermatorrhœa, its Causes, Symptoms, Results, and Treatment. By Robert Bartholow, A.M., M.D., Professor of Materia Medica, in the Medical College of Ohio. New York: William Wood & Co., 61 Walker street. Montreal: Dawson Bros.

The rapidity with which the various editions of this work have been sold, is good evidence of its value. It certainly is a really instructive little manual, and gives a fair epitome of the existing knowledge upon the subject, with a considerable amount of original matter. He attacks Lallemand's teachings, which have very generally been received by the profession, with much vigor. After quoting authorities in support of the opinion entertained by himself, that in the disease there was neither inflammation of the prostate or seminal ducts he says

"I may also refer, in opposition to the views of Lallemand, to my personal observations. I have had numerous opportunities to ascertain—if it exist—a causative relation between the lesions of the generative apparatus and spermatorrhœa described by Lallemand, but hitherto have failed to observe this connection. I lately made a most careful dissection of the sexual apparatus of a young man dead of double pneumonia, who was known to have practised masturbation in an extreme degree for many years. Besides a catarrhal condition of the mucous membrane of the seminal and prostatic ducts, and of the *vesiculæ seminales*, there was literally no lesion of these organs. I therefore reject this position of Lallemand as untenable, and as leading to improper methods of treatment."

Spermatorrhœa is, in the view of the author, a *neurosis*. Although structural alterations may be coincident, they are not causative.

In the treatment of this affection, we find he places his chief reliance on the bromide of potash, a remedy which we have used with a considerable amount of success. The disease is, however, one exceedingly difficult of permanent cure, at all events to the patient's satisfaction, for unless the involuntary discharge of semen be completely arrested, he is not likely to consider himself well. This, is in our opinion, an impossibility, and we are glad to notice that on this point our author is with us, and confins the term Spermatorrhœa to that condition in which involuntary seminal loss occurs with sufficient frequency to produce a definite morbid state. We believe that to a certain degree seminal emissions of an involuntary character take place as the direct result of physiological laws, and that it is the duty of the humane physician to so inform his patient, who has generally been worked up to a pitch of nervous excitement by reading some of the many quack publications upon this subject. We know from experience how difficult it is to reason with one so situated, but it is the true course nevertheless. Many very useful hints may be gathered from the perusal of the volume, which we very willingly draw our subscribers attention to.

Renal Diseases, a Clinical Guide to their Diagnosis and Treatment. By W. R. Basham, M.D., Fellow of the Royal College of Physicians, Senior Physician and Lecturer on Medicine, Westminster Hospital, &c., &c. With illustrations, 8vo: p 304. Philadelphia: Henry C. Lea, 1870.

Special attention has been paid during the past few years to bed-side instruction, and it has long been recognized as the most essential part of medical education. Seeing is believing; it is at the bed-side that the student is taught what to observe in disease; each symptom, as it makes its appearance, has a special significance, and if proper attention is paid, and its important connection recognised, it becomes an integral part of the map of the disease it accompanies. This fact is well recognised by both teacher and student, so that to both the importance of careful clinical observation becomes obvious. Clinical examination has more recently been regarded as the most positive proof of a student's efficiency, so that when he goes out into practice he may be able from symptoms present to form a lucid and clear judgment of the nature of the disease he has to encounter. With a view of promoting a clinical knowledge of a class of diseases which present many difficulties, Dr. Basham has prepared this work, trusting that it may afford to the student and junior practitioners a practical guide which will be of use in bed side observation.

The author had divided his subject into three headings or parts. In part 1st, he treats of diseases of the kidneys "marked by symptoms more or less of an inflammatory character." Diseases having for their causes various injuries, such as blows, kicks, or substances applied to the skin. Secondly, substances taken internally, which have a specific stimulating effect on the kidneys. Next we have those affections resulting from certain febrile poisons. The agency of cold and wet in inducing acute morbus Brightii or inflammatory dropsy; nephritis associated with gout. An excess of uric acid passing through the kidney giving rise to gravel. The deposit of tubercular matter or tubercular nephritis, tubercular pyelitis and scrofulous pyelitis, cancerous nephritis, peri-nephritis, nephritis induced from parasitic causes and the nephritis of pregnancy.

In the second part, the author treats of chronic renal affections, and describes four varieties, or post mortem conditions met with in that group of diseases designated chronic albuminuria, or chronic morbus Brightii.

"I. The small red contracted granular kidney. The cirrhotic kidney of Dr. T. Grainger Stewart, and Dr. Harley.

II. The large granular fatty kidney.

III. The amyloid kidney.

IV. The atrophic, contracted, nodular, gouty kidney."

The author draws a distinction between the small red contracted granular kidney, and the nodular atrophic contracted gouty kidney, this latter, a condition which is never seen except in persons who have suffered from gout in some shape.

The third part of the book is devoted to the clinical significance of the urine. Its properties, physical, clinical and morphological as indicative of renal disease. This part is illustrated with twenty-one microscopic representations of urinary deposits.

The work is concise, practical, and will be found of great use by practitioner and student.

PERISCOPIC DEPARTMENT.

Surgery.

A NEW AND MOST USEFUL EYE SALVE IN "GRANULAR LIDS" AND IN ALL CASES OF CHRONIC OPHTHALMIA.

By John Williams, Physician and Surgeon.

After long experience, I can speak most confidently of this ointment, for the composition of which I now publish the following formula: ℞. Arsenici Sulphureti. 2 gr.; Unguenti Citrini, 2 ʒ; Axungiæ Preparat, 6 ʒ. M. Bene. In cases of "granular lids," accompanied with

most inveterate "pannus," and in almost all cases of chronic ophthalmia, in which the conjunctiva has become almost cuticular, I have found this ointment particularly useful. Ophthalmia is well known to be very prevalent in the city and county of Cork, so that I had very many opportunities of proving the efficacy of this ointment. The upper eyelids should be everted in cases of "granular lids," and about the size of a hemp seed of this ointment should be applied with a camel-hair pencil, which must be introduced into the superior palpebral sinus, to the diseased conjunctiva. In suggesting this local remedy I am not unmindful of *general* treatment, without which *any* local remedies are almost useless.—*Dublin Quar. Jour. Med. Science.*

SYPHILITIC GONORRHŒA.

Prof. W. A. Hammond, of New York, in his "Lectures on Venereal Diseases," maintains the following propositions: 1st. "That the virus of an infecting chancre, when deposited on a secreting mucous surface upon which there is no solution of continuity, may give rise to gonorrhœa, unattended by chancre, but which is syphilitic in its character, and capable of producing constitutional disease. 2d. The matter of such a gonorrhœa is capable of causing an infecting chancre either by natural or artificial inoculation, which chancre is followed by constitutional syphilis."—*Philadelphia Medical and Surgical Reporter.*

NEW TREATMENT OF PILES.

At the last meeting of the British Medical Association Dr. Daniel Maclean, of Glasgow, read a paper of great interest, published in the Association's *Journal*. After speaking of the pathology of hæmorrhoids, he says:

Seeing, then, that all kinds of piles have necessarily a sac or cell with fluid contents, and that, so long as this sacculated condition continues, you have an abnormal condition of parts with its accompanying suffering; and so long as the vessel or vessels are unable to perform their functions properly, from the continued injection of blood against the already overstrained walls, the obvious mode of treatment is to support the weakened walls, and then empty the sac, as you would do in a case of hernial tumor by a process analogous to the reduction by the taxis. This is a method of treatment not mentioned by authors, but which in my practice I have found eminently beneficial.

Hæmorrhoids after parturition generally come on in patients who are of a soft, lose habit of body, or who are, at all events, flabby and relaxed in the perineal region. In treating them, I first get a free evacuation of

the bowels by some aperient medicine; and when the effects of the medicine have passed off, I order the parts to be well fomented for a few hours, to relieve as much as possible the irritation and spasm of the parts. I then proceed to apply the taxis to the tumor. Taking a piece of soft, well-oiled cloth, and grasping one of the tumors—if there be more than one—with two fingers and the thumb, thereby encircling the enlargement, and curving the fingers so that they cover the fundus of the pile, I proceed to press the tumor toward the mouth of the sac, with a kneading motion, continuing for a little time until I find the swelling become gradually smaller under the manipulation, and there only remain the thickened integument and whatever effusion of serum may have taken place into the cellular tissue.

In the beginning of the application of this process, the pain is sometimes considerable; but, as the tumor becomes emptied, the pain decreases, and, when it is fully reduced, a great sensation of relief is experienced. The reduction of the first hæmorrhoid being completed, the same procedure is applied to the others in rotation; and, the whole being reduced, astringent lotions or ointments are applied to the part, and the operation is complete.

We are now at liberty to proceed with the removal of the primary cause, if any exist, and there is usually some such cause in cases other than post-parturient. In these last, their acute origin is much more recent, and therefore much more easily subdued; but whatever the cause, the method of treatment is still the same, and will be found of value.

Looking to the pathology of hæmorrhoidal tumors, containing, as they do, a single sac, or a plurality of sacs, with fluid contents; the first principle of treatment is to empty the cavity of its fluid, remove all tension and irritation, and enable the tissues to resume their normal condition.

In external and intero-external piles, they are—if not seen sufficiently early—besides the fluid contents, what I have called the results of the hæmorrhoidal condition, viz., the coagulated or semi-coagulated blood the infiltrated cellular tissue, and the thickened integument. Having emptied the sac by the process mentioned, I continue the taxis to what remains of the tumor, either at that sitting or at one subsequent, and generally get quit of the static materials. What remains is removed by natural agency. It might be objected that the forcible propulsion of coagulated blood into the current of the circulation would give origin to the formation of an embolism in some distant part, and by that means act as a source of danger to the patient; but, whatever force this objec-

tion may have theoretically, it does not hold good in practice, as it might be expected to have shown its evil consequences in the course of the two or three years during which time I have employed the plan. The same or an analogous condition of parts is seen in the veins surrounding a varicose ulcer. You have little knobs at different parts in the course of these vessels, which, from their solidity, size, and shape, can only be coagulated blood obstructing the venous return, and keeping up the congestion surrounding the ulcer. By applying the kneading process, and causing the patient occasionally to do the same, you gradually reduce the amount of hardness in the part, and ultimately remove the occluded state of the vessel, but in no case does the patient suffer afterward from embolia.

In internal piles, the application of the taxis is conducted in the same manner, but here it is necessary to cause the extrusion of the tumors, and this can be done as in the removal by the ligature, by passing an injection of tepid water into the rectum, and then getting the patient to expel them by straining, when the same process is gone through as in external piles, and, on the return of the bowels, we attend to the constitutional disorder and give injections of astringent lotions, etc.

When the internal variety of this tumor takes place in females who have had children, the reduction of the swelling may often be accomplished through the walls of the vagina, more especially if the parts are relaxed, which in the majority of women is the case.

MR. SKEY ON GONORRHŒA AND GLEET.

Gonorrhœa consists in a purulent discharge from the urethra or vagina following sexual intercourse, attended with symptoms of more or less severity. These I shall not dwell on. General opinion adopts the belief that an attack of gonorrhœa results from intercourse with a woman who is herself the subject of that disease. I doubt the soundness of that opinion. How often in the course of the career of a surgeon has he had the opportunity of ascertaining this fact by personal examination of both parties? I am far from asserting that it is not communicable from one to the other sex. That fact is, I believe, indisputable; but long and ample experience has taught me, as I shall from that experience tell you, that gonorrhœa in the female is by no means essential to its production in the male, and I think you will find, on careful inquiry and examination, that the very large majority of cases of gonorrhœa in the male are the result of intercourse with women who have no ascertainable from of purulent discharge whatever. It is a remarkable fact that some men are much more prone to gonorrhœal disease than

others. Some men pass through the ordeal of London life without having been once the subject of the disease; while others, pursuing a similar career of dissipation, take the disease three or four times in as many years. It is also worthy of observation that gonorrhœa is a disease of early manhood and not of middle life. It is most severe from eighteen to twenty-three years of age, and the first attack is, as a rule, the most severe, but not invariably so.

I am quite certain that I have seen cases, and among the most severe cases, of gonorrhœa the result of intercourse *immediately* after the catamenial period. Mr. Abernethy was perfectly familiar with the fact that a man having intercourse with a healthy woman might become the subject of the common or soft sore; while to other men the same woman proved perfectly harmless. If venereal sores, why not gonorrhœa? If you ask me by what process of supposed inoculation the gonorrhœal matter makes its way down the urethra, I really cannot answer you; but it is a curious feature in the disease, and as the same locality is affected in cases in which the disease results from intercourse with women either during or immediately subsequent to the catamenial period, in whom there is no suspicion of gonorrhœal discharge, it is quite certain that in ordinary cases the inoculating matter makes its way three-quarters of an inch along the narrow canal of the male urethra? I do not assert that such women are absolutely healthy as regards the genital system, but I do not say they are not so. It is probable that they are the subjects of some form of discharge or secretion, innocuous both to themselves and others, that is capable of developing disease of a severe form in some constitutions, but not in others; for I fully believe the constitution is involved in the liability, and that gonorrhœa is not simply and entirely a local affection.

It is needless to quote examples, but I have never, for many years, been consulted in a case of gonorrhœa or primary gleet that I have not made at least a verbal inquiry as to the source of the disease. It has been suggested, as a mode of getting over the difficulty, that the cases I allude to are not examples of true gonorrhœa? Then what constitutes true gonorrhœa? If copious purulent discharge from the urethra, attended by burning pain during micturition, and chordee at night, do not constitute true gonorrhœa, my knowledge of that disease is defective. Gleet is a modified form of gonorrhœa, and exists either as a primary or as a secondary affection. Protracted gonorrhœa almost invariably runs into gleet, or an attack of gleet may be the direct consequence of sexual intercourse in a man, especially towards middle age. Primary gleet is uncommon in boyhood, or in early manhood. The discharge in either

case is rarely very great, nor is the pain in micturition severe. Active exercise, whether on foot or on horseback, very hot weather, excess of wine, very late hours, all tend to increase the evil, whether of the primary or secondary form, and to bring it in the direction, and sometimes even up to the level of a gonorrhœal affection. Purulent discharges from the urethra, like exanthematous diseases, have a given term of progress, maturity and subsidence. The average duration of a case of gonorrhœa is from six to eight weeks—that is, if left to nature. For gleet the term is uncertain. When a case of gonorrhœa runs into gleet, weeks and months may be required for its cure, whereas primary gleet is usually curable in a fortnight or three weeks.

The difference between the two cases of primary and secondary gleet depends on the previous treatment of the gonorrhœa. If, in consonance with a too prevalent pathology, we class a case of gonorrhœa among the inflammatory diseases, and treat if with supposed antiphlegmonous agents, among which may be included purgatives and other depletive medicines, reduced diet, vegetable food, and the entire suspension of vinous and fermentive drinks, which have hitherto formed a part of the daily diet of the affected persons—then, as a rule, the active gonorrhœa runs into gleet, and, the same remedies being continued, the gleet will be protracted to the extent of weeks, months, and in some constitutions, even of years. In fact, the gleety discharge, which consists, for the most par of a watery ichor, containing more or less pus globules, is a sort of dropsy of the urethra, and the more we deplete the more persistent is the discharge. When I was on duty in the out-patient department of St. Bartholomew's Hospital, a man applied for treatment of a gleet of three years' duration. He belonged to a large brewery in the Mile-End Road, and had been accustomed to drink two quarts daily of strong ale, but had, by medical order, totally abstained from his accustomed drink from the commencement of his malady. I ordered him to return immediately to his former beverage. Within a fortnight he had entirely recovered.

In the treatment of gonorrhœa, we should always keep in mind the important fact that it has a natural period of subsidence, or cure, if untreated; that at the expiration of six to eight weeks it will die a natural eath. Therefore, it cannot be a wise or judicious proceeding to commence the treatment by active purgation, or other form of depletion. I believe a mild aperient or two to be unobjectionable, and I have found benefit from a powder containing twenty grains of jalap and two drachms of powdered gum arabic, taken at night in half a tumbler of milk. This may be repeated for two or three nights, and then I think we should rest on our oars for a week or ten days, abstaining from active exercise, but

adhering to the usual habits of diet, unless the daily consumption of wine or other alcoholic drinks is large; if so, I would reduce them partially, both in quantity and potency. As early as the local pain and profuse discharges are somewhat reduced, I advise you to resort to iron, quinine, or other tonics, and to increase the consumption of wine on the same tonic principle, commencing with a moderate dose, and increasing the quantity rapidly up to a full dose of the compound medicine. I generally prescribe ten or twelve grains of the citrate of quinine and iron twice daily. At the expiration of about a week from the commencement of the treatment by tonics, I would suggest a simple injection of one grain of sulphate of zinc to the ounce of water, to be used night and morning, and then thrice daily. It may be necessary toward the latter stage, if the progress is slow, to add ten minims of copaiba balsam twice daily. Beer is unobjectionable.

In cases of primary gleet, the success of the tonic treatment above mentioned is remarkable, as it will often, in mild cases, cut the disease short in three or four days; but in such examples there is an entire absence of painful micturition and chordee. If these symptoms are present, the tonic agent, should not be resorted to until the expiration of a few days. If, unfortunately, orchitis should occur, pending its existence, the treatment by tonics, most valuable in its absence, should not be resorted to.—*Lancet.*

Medicine.

ON THE TREATMENT OF HÆMOPTYSIS.

By Dyce Buckworth, M.D., Assistant Physician to St. Bartholomew's Hospital.

Among many problems in therapeutics awaiting solution upon a basis which is satisfactory to the scientific inquirer, and therefore due to the claims of legitimate medicine, stands the question as to the value and *modus operandi* of styptic agents when given internally. They are constantly made use of, and both the routine of practice and popular demand tend, I believe, to encourage their employment with unnecessary frequency.

I propose to discuss briefly in this paper the practice of treating hæmoptysis with styptic remedies.

In estimating the value of any special plan of treatment, it is, of course, necessary to pay special attention to the cause and tendency of

the morbid condition or symptom we try to rectify or relieve. In the more apt language of my distinguished former teacher, Professor Hughes Bennett, "a correct pathology must ever precede scientific therapeutics."

With regard to hæmoptysis, then, we find that in the great majority of cases it is a symptom of pulmonary consumption. The occasional bleeding from thoracic aneurisms, and those arising from pulmonary congestion, secondary to heart disease, may be said practically to call for no interference with styptics; neither do the occasional small hæmoptyses which occur in the course of chronic bronchitis and emphysema. It is, however, a question with some whether the hemorrhage in pulmonary apoplexy should be restrained. The late M. Trousseau advised the use of ipecacuanha in these cases, and wrote favorably of it. [I cannot myself see that it is desirable to check the *expectoration* of blood in such a case, though any remedy that would prevent hemorrhage into the texture of the lungs might justly be extolled.] Passing by the comparatively rare cases of cancer and hydatid of the lungs as affording causes for hæmoptysis, we are left mainly to deal with that arising from phthisis; and in reviewing the causes and results of this accident it is proper, in the first place, to bear in mind that death directly from it is the rarest of occurrences. During the largest hospital experience of the last twelve years, I have myself seen only one death from the cause. An accurate diagnosis should be made; so far as is possible. It is certainly wrong to percuss the chest, or make any such physical examination of it as entails movement or disturbance to the patient. The bleeding is usually from small bronchial, arterial, or from pulmonary venous branches, eaten into by ulceration. It is always recognized as from these sources, unless the blood be distinctly venous in appearance, when, as most rarely happens, a branch of the pulmonary artery has ruptured.

I believe that a large number of cases of simple hæmoptysis require no medicinal treatment whatever. The occurrence is often so regulated as to be what we may call self-limited; that is, a vessel or some small vessels rupture, they bleed for a time, and they cease to bleed. The analogy in this respect, I believe, between such a breach and a similar one elsewhere on the body, is not so distant as may be at first supposed. Many cases of pulmonary hemorrhage terminate in this way. In the meantime there may have been wise or unwise measures employed to check the process, and these are not unlikely to win credit for the satisfactory result.

I need hardly say here that this is no evidence whatever to us as therapeutists.

How often, indeed, are practitioners summoned to cases of hæmoptysis,

and on arrival find there is nothing for them to do. The patient's condi, tion in the meantime may have been most inconducive to the result. He is perhaps found lying on a warm feather bed, in a close room, surrounded by anxious attendants. Perhaps the only favouring circumstance in a somewhat severe case may have been the partially syncopal condition, induced by alarm at the sight of blood, which moderated the cardiac action.

Nothing beyond rest and suitable hygienic practice is called for; but if there be interference with medicine, the result will be perhaps set down to the particular drug employed. There is no doubt that many agents have not only gained, but maintained, a reputation as hæmostatics on the credit of cases similar to the above. And, indeed, if we boldly survey the whole field of therapeutics, we find the same sort of faith to prevail only too largely.

So much, then, for those cases, a large number, as I have stated requiring no interference with drugs. We are compelled, however, to treat a hæmoptysis which does not cease spontaneously.

It is first to be borne in mind that, with perhaps one exception, to be presently mentioned, we are not in possession of the means to effect a change in the vascular walls in a short period of time. Some hæmostatics no doubt act rapidly, by altering the relations between the blood and the vessels.

"In all cases," remarks Professor Bennett, "the best remedy is perfect quietude and avoidance of every kind of excitement, bodily and mental. Astringents have been recommended, especially acetate of lead and gallic acid; but how a few grains of these remedies, introduced into the stomach, can operate upon ruptured vessels in the lungs, I am at a loss to understand; and I have never seen a case in which their administration was unequivocally useful."

This is a bold assertion as to styptic drugs, but in the class of cases we are now considering, I believe it will not deter the practitioner from interference. It is my conviction that we are warranted by the results in employing certain drugs in severe and prolonged hæmoptysis. It is perhaps too much the habit to give opium and powerful astringents in these cases. To be of any use, ℈j to ʒ ss of gallic acid should be given every half hour at first, or gr. ij to v. of the acetate of lead as often. The result of such medication, in many instances, is so to disturb the digestive powers and nutritive processes as to throw back the patient, and render the hemorrhagic attack altogether a very severe accident for him. I believe the value of opium in hæmoptysis to consist, not only in its general calmative powers, diminishing irritability and checking cough,

but also in its local tonic action upon the small vessels. That continued doses of acetate of lead produce a marked effect upon a ruptured vascular surface, I entertain no doubt. We are, it is true, met with the difficulty of supposing that a few grains introduced into the mass of the circulation—say gr. x to lb. 15 of blood—should act in so decided a manner. "We must remember that though only a minute quantity at a time is presented to the injured capillary, that quantity is continually succeeded by others as the course of the circulation passes over the part. Lead is absorbed with ease, excreted with difficulty. It diminishes the red corpuscles, and thus directly counteracts the hemorrhagic diathesis."

I believe, however, that in many cases we may dispense with this remedy, as also with gallic acid, in favour of the more simple plan I shall now mention. On the occurrence of continued hæmoptysis, all other remedies should be withheld, and a simple astringent or slightly aperient medicine given. A good form is *m* x to *m* xv of dilute sulphuric acid, and, according to the state of the bowels, ʒ ss to ʒ j of sulphate of magnesia may be given with this in some spearmint water every half hour at first, and then less frequently. In addition to suitable posture (semi-erect) and other well known favouring conditions, absolute silence should be enjoined, and the patient urged to refrain from coughing as much as possible. Should the bleeding continue, we should place a bladder of ice, or a frozen compress, between the scapulæ for a short time. This sometimes acts promptly, no doubt by reflex action, and probably this is the only means whereby a rapid change can be induced in the vascular walls. Should this fail, tinct. digitalis should be given (*m* x or xv) with each dose of the astringent saline. In addition to this, if the case appears obstinate, a blister should be painted on the front of the chest, if possible under the clavicle of the side believed to be affected.

The ordinary habits and remedies may be resumed in a day or two after the cessation of the hemorrhage.

The above description comprises the most beneficial method which I have witnessed, and, in setting it forth here, I need not say that there is no novelty in it. I do believe, however, that it deserves to be employed more frequently, instead of the medication with opium and powerful astringents.

Of the value of ergot, turpentine, and common salt, remedies frequently employed and lauded, I have no experience. I imagine the actions of opium and ergot are not dissimilar as regards their effect on the small blood vessels.

Digitalis has fully vindicated its right to a high place in our list of hæmostatics. It is believed to produce its effect independently of any

action on the circulation. Dickinson suggests that it influences the muscular fibres of the uterus in cases of menorrhagia, in which it is of great value.

Ipecacuanha enjoys considerable reputation as a hæmostatic, especially in the Parisian school. I think the following experience of it in hæmoptysis worth recording in this place. I employed it in two bad cases, and watched its effect in a third. In only one of these was the result satisfactory.

Case 1.—A farm labourer, aged twenty-one, admitted into hospital with a second attack of hæmoptysis, which had persisted for five days. Sufficient evidence of mischief was elicited at the left apex. I gave him gr. ij pulv. ipec. 4tis horis. This caused only slight nausea. Next day hæmoptysis continued. Ordered gr. v. 4tis horis. This caused vomiting, but was persisted with. Hæmoptysis not checked. A blister under the left clavicle was of no service. The bleeding ceased gradually in two or three days, the patient taking, in the meantime, sulphuric acid and digitalis mixture.

Case 2.—J. P., aged 35. Royal Dockpard policeman, was admitted into Plymouth Hospital with severe hæmoptysis. Known to be a subject of chronic phthisis for last three years. Ordered by the late Inspector General, Dr. Stewart, ʒ ij vin ipec. (=gr. v pulv. ipec.) secundis horis. This caused vomiting, and the remedy was suspended in favour of gallic acid, which failed, and was replaced by sulphuric acid and digitalis mixture, which likewise was of no avail. The man died purely from hæmoptysis and syncope in three days, and on examination I found several bronchial ulcers in the left apex, communicating with branches of (probably) the pulmonary vein.

Case 3.—Out-patient, aged 64, hale looking man; had suffered for some days with hæmoptysis. Physical signs *nil*. To take *m* x vin. ipec. (= gr. ss) ter die. No benefit derived in a week, when gr. v of gallic acid were ordered ter die. Next week hæmoptysis no better; blood was brought up in my presence; to take gr. iij pulv. ipec. ter die. On the second day of this treatment the hæmoptysis ceased completely. The powder was taken till the fourth day, when it proved purgative, and was suspended. No nausea was produced. In six months time, no change in condition of chest, and no further hæmoptysis.

In two of the cases nausea occurred. Trousseau maintained that neither this nor actual emesis interfered with the good result. One naturally fears the disturbance to the circulation in vomiting, but this circumstance is not proved to contra-indicate nauseant remedies. The styptic action of ipecacuanha, if it really exist, is not yet explained. I

have elsewhere shown that the theory of its bleaching the lungs is untenable, and that these organs, on the contrary, are found full of blood after its use. I am disposed to believe that this drug does not act similarly on all individuals, and that, just as the dust of it excites an asthma in some persons, and is harmless to the air passages (in small quantity) of others, so the nervous arrangements of some may be more susceptible to its action. Laycock believes that it excites a similar contraction in the vascular to that which it promotes in the bronchial tubes of some persons.

The hæmostatic action of nauseant remedies are perhaps partly explicable by the calmer state of circulation they induce.

In many cases, I believe, we may bear in mind the opinions of the late Dr. Theophilus Thomson and other authorities, which teach that oftentimes in phthisis moderate hæmoptysis is useful, and seems to retard a fatal issue.

In conclusion, I would make one or two remarks as to t e which is sometimes set to the account of steel and cod liver oil in causing hæmoptysis in cases of phthisis.

Cullen forbade the use of ferruginous medicines as styptics, because they "contributed to increase the phlogistic diathesis of the system;" he also condemned Peruvian bark for the same reason.

There are those who deny the truth of this, and consider that even if such were the case, no harm would result. I suppose few remedies are more largely employed. If iron be withheld from the cases where there are manifestly present pyrexial symptoms, hardly any complaint could be made.

In these instances the remedy is unsuited, and quinine replaces it with much advantage. And so with cod-liver oil. It is not, however, possible in every case, to say whether one or the other will positively prove harmful, and the truth in the matter is, I believe, comprised in the following, which is the experience of my colleague, Dr. Andrew, viz., that both steel and cod-liver oil do cause hæmoptysis in a certain small number of phthisical patients, who, therefore, cannot take these remedies. The greater number, however, bear both well without any such occurrence being fairly chargeable to their use.—*Practitioner.*

Hysterical Retention of Urine.—Mr. J. Waring Currant) *Medical Press and Circular*) has found retention of urine in hysterical young women to be relieved by having them suddenly plunge the hands in very cold water. They call out lustily for the urinary apparatus, and pass large quantities of the so-called hysterical urine. The procedure thus obviates the objectionable resort to the catheter. Nearly every one must have experienced the desire to urinate after thrusting the hands or other parts of the body into cold water.—*Med. Review.*

Midwifery.

7. *On the influence of Chloral on the Pain of Parturition.* By E. LAMBERT, ESQ.

[*Edinburgh Medical Journal*, Aug. 1870.]

In this paper, read before the Edinburgh Obstetrical Society, the author alludes to the fact that "when chloral was brought before the profession, Sir James Simpson was foremost in prosecuting inquiry into its therapeutic value, and published a paper on the subject in the *Medical Times* (London). The author remarks that "chloral could not claim to supplant chloroform, since it abolished consciousness to a less extent, placing the patient, as it were, midway between consciousness and unconsciousness, and rendering her incapable of that control which is essential during the close of the second stage; but this admission only placed in a stronger light the admirable properties of the agent when applied to the relief of pain during the first stage of labour, at a period when it is generally conceded that chloroform is hurtful.

As *the* hypnotic of this first stage, chloral stands as yet unrivalled; we have only to remember that opium, our only sure refuge, must be administered with the knowledge that we are conspiring, though for a higher end, against the course of labour."

The author reports eleven cases, in the history of which, and in the comments upon them, some interesting points are developed. He arrives at the following conclusions:

1. Chloral is an agent of great value in the relief of pain during parturition.

2. It may be administered under favourable circumstances during and at the close of the second stage, with the result of producing absolute unconsciousness in the same sense in which we understand unconsciousness under chloroform.

3. When thus given successfully, it has this advantage over chloroform, that it requires no interference with the patient.

4. It is desirable to retain chloroform in the position which it at present occupies in midwifery, and to reserve for the agency of chloral the first stage of labour. If, however, chloral or some agent having analogous properties is found successfully to relieve the pain of uterine contraction, the use of chloroform will be restricted to a lesser period of the duration of labour, or to the facilitation of manual or instrumental interference.

5. It is demonstrated that a labour can be conducted from its commencement to its termination, without any consciousness on the part of the patient, under the sole influence of chloral.

6. The exhibition of chloral in nowise interferes with the exhibition of chloroform.

7. The proper mode of exhibiting chloral is in fractional doses of grs. xv. every quarter of an hour until some effect is produced; and according to the nature of that effect the further administration is to be regulated. Some patients will require doses of ʒ i; and it is better to produce an anæsthetic effect by ʒ iii given in the space of two hours than by ʒ i given singly.

8. The effects of chloral are continued beyond the period of completed parturition, and the repose experienced by the patient after her labour is one of the favourable circumstances to be noted in considering its application to child-birth.

9. Any stimulating effects, in the form of general excitability, occasionally observed during the administration, have passed away very rapidly.

10. Chloral not only does not suspend, but rather promotes uterine contraction by suspending all reflex actions which tend to counteract the incitability of the centres of organic motion.

11. Labours under chloral will probably be found to be of shorter duration than when natural, for unconscious contractions appear to have more potent effects than those which are accompanied by sensation of pain.

12. Experiments are required in order to determine whether there exist the same antagonism between ergot and chloral as is known to exist between strychnia and chloral.

13. The general conditions under which chloral is to be administered are the same as those which regulate the administration of chloroform, and the rules laid down by Sir James Simpson in connection with this subject must be rigidly adhered to.

SUBNITRATE OF BISMUTH IN CHOLERA INFANTUM.

In *The American Practitioner*, W. Walling, M.D., gives the following account of this remedy: Having had satisfactory success with subnitrate of bismuth in the treatment of cholera infantum, I am induced to submit the results of my experience to my professional brethren. In private practice and in the Western Dispensary of Louisville, I have had an opportunity of treating thirty-three cases of this disease during the past season. In the first case in which I prescribed the bismuth vomiting was intractable, and it was this symptom which led me to make trial of the remedy. The effect was prompt. Not only was the retching arrested, but with it all other symptoms were relieved. Since then I

have used the bismuth to the exclusion of all other internal remedies, except occasionally in malarial cases the sulphate of quinine. I prescribe it in doses of ten grains to a scruple, repeated every second hour, until relief is experienced. I direct it to be given in the mother's milk, recently drawn; or, if the child is not at the breast, in any article of food it may be taking.

The shortest period in which I have arrested the disease with this remedy is seven hours, or after the administration of four doses. The longest time that I have had a patient under treatment with it was three days. The average duration of the thirty-three cases was fifteen hours.

I have enjoined, in all cases, abstinence from all articles of diet but milk, and have directed this to be given in small quantities and at regular intervals.

Of the thirty-three cases which have fallen under my care this season, not one has had an unfavourable termination. In some the symptoms were violent. In a number the hygienic circumstances surrounding the little patients were exceedingly unfavourable.

Retracted Nipple.—At a meeting of the Boston Obstetrical Society in October, (reported in the Boston *Medical and Surgical Journal*), Dr. Lyman related the case of a woman whose nipple was so poorly developed as to be apparently on a level with the breast. After the confinement the breast could not be evacuated; the consequence was an excessively troublesome abscess. In her next pregnancy the plan was adopted of breaking off the neck of an ordinary wine bottle (with smooth lips), and binding it on to the breast in such a manner that the circular rim of glass pressed upon the areola around the base of the nipple. This was done for ten days preceding confinement and the result was most satisfactory. Not only was a deep circular depression made around the nipple, but the latter became more elevated; and the success of the experiment was established by the ease with which the child, when born, accomplished the act of sucking.—*Medical and Surgical Reporter.*

Materia Medica and Chemistry.

THE ALKALINE SULPHITES AND HYPOSULPHITES.

Extract from a Lecture Introductory to the study of Diseases of the Skin, by Dr. McCall Anderson.

Some years ago Polli of Milan made experiments with the sulphites and hyposulphites of potash, soda, and magnesia. Having proved, by ex-

periments—"first, that sulphites, when administered to a living animal are carried, *as such*, into the circulation, and diffused all over the organism without the slightest inconvenience to the animal; and, secondly, that the presence of these salts in the liquids and solids of the body retards the putrefactive fermentation for a very considerable period:..... he took two dogs of about the same size, and equally in good health; he fed them exactly alike for five days, with the exception of administering to one of them two grammes of sulphite of soda daily—the other dog getting exactly the same food, minus the sulphite. At the end of five days he injected into the femoral veins of both animals one drachm of pus taken from a fœtid abscess occurring in a broken down constitution. The operation in both cases was carefully performed, and the animals suffered but little. Immediately after the injection both dogs appeared stupefied; they lay down and refused all food, remaining quite prostrate for twenty-four hours. On the following day, however, they both seemed a little better and took some food. A second injection of pus was now practised on both animals to the same amount, but the first dog had, the meanwhile, been getting two grammes of sulphite daily, while the latter was only getting plain food. The effect of the second injection was most interesting; both the dogs were affected instantly alike; both were seized with stupor; in both the pulse was rapid but feeble, while the respiration was greatly accelerated; both dogs refused to eat; both lay down in a state of stupor; and, when made to rise and walk, they tottered and reeled across the room. The first dog, however, continued to receive daily, a dose of two grammes of sulphite of soda, and in four days was so far recovered as to be able to eat his food with relish, while the wound in the femoral vein was rapidly healing. The other dog fared differently; he got no sulphites either before or after the operation, and the result was that he daily became worse; the wound in the thigh became gangrenous, the limb swelled up, and ten days after the second injection the dog died, with all the symptoms of typhus; the first dog being already about and well."*

One other experiment may be mentioned. Polli "took two large dogs, as similar as possible both in size and health, and, having administered to one of them eight grammes daily of sulphite of soda, he injected into the femoral veins of both dogs three grammes each of the muco-purulent discharge obtained from the nares of the same glandered horse which had served for a previous experiment. The first dog, which had received the sulphites, seemed at first to suffer the most from the injection. It at once fell to the ground as if stunned, and its breathing was rapid and panting; but in a few hours it began to recover, and the following day it was able

* Dublin Quarterly Journal of Medical Science, Vol. XXXVI., p. 470; article by Dr. De Ricci.

to eat. The second dog bore the operation better, and did not appear to sustain so severe a shock; but on the following day it began to mope, towards evening it was very drowsy, and with difficulty it could be got to stand; by the third day the animal's extremities had become œdematous and painful; by the fourth a purulent discharge was running from its nose and eyes, and the wound in the thigh was now almost gangrenous. On the fourth day the animal died, worn out by pain, fœtid suppuration and diarrhœa. The first dog was by this time completely recovered." *

For further details I must refer those who are specially interested in this subject to Dr. De Ricci's paper, and Professor Polli's work "On the Use of Alkaline Sulphites in the Treatment of Diseases depending on Morbitic Ferments."

Acting upon these data, and believing that impurity of the blood lies at the root of those cases of recurrent furunculi in which no local or special constitutional cause can be detected, I made a trial of the hyposulphite of soda in this complaint; and in some instances I was surprised at the result, as in the following case: —

"A young man of good constitution, but who for some months had suffered from a series of boils, appearing principally upon the legs, came for advice to the Dispensary for Skin Diseases. The complaint had not moderated in the least when I saw him; for the furunculi were coming out in rapid succession. I prescribed for him half a drachm of the hyposulphite of soda, thrice daily, in water: and from that day he never had another boil."

Before giving the medicine we must take inquiry as to the condition of the general health, especially as to the state of the bowels, which are frequently constipated, and correct any derangement which may be present. It should be given largely diluted, as in the following prescription: — Hyposulphite of soda, an ounce and-a-half; simple syrup, one ounce; cinnamon water to twelve ounces. A table-spoonful in a large wineglassful of water thrice daily, on an empty stomach.

Dr. De Ricci prefers the sulphite of magnesia for internal administration; "because it is not so unpalatable, and is less likely to produce diarrhœa; and because in consequence of the atomic weight of magnesia, it contains, bulk for bulk, more acid than the soda salt." He cites a case of chronic pemphigus in an old gentleman over eighty, in which the external use of a saturated solution of sulphite of soda, and the internal administration of the sulphite of magnesia, had a remarkably beneficial effect.* It appears, then, that the alkaline sulphites and hyposulphites are of value in the treatment of some diseases of the skin; and that they are deserving of a more extended trial than has heretofore been accorded to them.

* Ib., p. 407.† Dublin Quarterly Journal of Medical Science, vol. xlii., p. 363.

Canada Medical Journal.

MONTREAL, JANUARY, 1871.

THE BODY SNATCHING CASE AT LACHINE.

A great deal of unnecessary publicity has already been given by the sensational press of this city to this *cause celèbre*, and after columns of maudlin bunkum have been set and printed and read by the million, it has been established that some person or persons, known or unknown, have done the good people of the village of Lachine out of one hundred and twelve dollars. This is virtually all that the public have ascertained from the effusion of printers ink which has been expended in this case, and this is all the public ever will know. Further deliberation, if it does occur, between the parties will be conducted with closed doors, and even the inquisitive reporter or correspondent of the press will be left out in the cold. We wish him no special harm, nor do we invoke on his head a blessing or a curse, but *en passant* we must say that we do not admire the style of articles published by some of our daily papers. They are mawkish, flippant and not in keeping with a respectable and high toned journal.

Now with regard to the so-called outrage, we approach the subject with regret and full of sympathy, and at the same time we would point out a remedy which would, if faithfully carried out, put a stop once and forever to a repetition of such scenes. We in Canada have always believed that we are a law-abiding people, we pride ourselves on being so, and as compared with other communities we are so. There is a law on our statute book which is being constantly set at defiance, and that is the provision of the anatomy act passed by United Canada in 1844. By the provisions of this act all paupers dying in any poor house or hospital, receiving Government aid, or gaol, shall remain in the dead house of that institution for a certain number of hours ; if at the expiration of that time the body remains unclaimed by *bona-fide* relatives or friends, the authorities of the institution are required to inform the inspector of anatomy, who shall hand over the body to any school in the vicinity for the purposes of dissection. The law recognises the great necessity of fostering the study of anatomy, and in doing so provides

an ample supply without in any way outraging the feelings of any class.

There are, however, unfortunately corporations and communities which afford aid and succour to the poor, who systematically send for burial all the paupers who die in their poor-houses. We have two large hospitals in Montreal, and from one of these institutions no pauper dead are ever handed over to the inspector of anatomy for the purpose of dissection. These institutions have, each a full staff of medical officers, men who freely sacrifice the best hours of each day in the gratuitous performance of their duties in attendance on the sick poor. And all that these gentlemen ask, in this connection, is that the anatomy act be carried out faithfully. Why should the good ladies of the Hotel Dieu Hospital indulge in maudlin notions about the desecration of the dead? Have they not sufficient confidence in the common sense of their medical staff to know and feel sure that no such desecration is permitted in any well ordered school of anatomy? Are they not aware of the fact that the remains of the dead after dissection are carefully collected, placed in coffins and buried in consecrated ground?

But will some of these ladies, who are acquainted with the manner in which these matters are managed abroad, call to mind that in Paris the Government insist on the bodies of all persons dying in public Hospitals, being given over for the purposes of anatomy; what is the consequence? that Paris is the school to which all surgeons, who can afford it, both French and Foreign, resort for the purpose of completing their education practically, and furthermore that such a thing as robbing a church yard, or breaking into a vault, let alone taking the bodies therefrom of "persons belonging to a religious order," is a crime unknown in the Modern Babylon.

SIR WILLIAM LAWRENCE AND CHLOROFORM.

The *London Lancet* tell us that, at a meeting of the Edinburgh Royal Society, Prof. Christison made some remarks on the discovery of chloroform, which illustrate how nearly Sir J. Y Simpson was anticipated in his introduction of this anæsthetic into practice. In the summer of 1847, a few months only before Simpson's discovery was announced, Lawrence had repeatedly used in practice an anæsthetic which came recommended to him under the name of chloric ether; and while he and his assistant were busily contriving how to concentrate their chloric ether, not recognizing the fact that it consisted merely of chloroform dissolved in rectified spirit, Simpson's discovery came forth and put a stop to their inquiries.

A NEW METHOD OF DELIVERING THE AFTER-COMING HEAD IN CONTRACTED PELVES.

In arrest of the head at the brim in original breech cases, or after version has been resorted to, Dr. William Goodell (*American Journal of Obstetrics*, November, 1870) advises the following method, which he has repeatedly found successful. After grasping the neck and ankles of the child, the first movement of traction is to be made in the direction of the axis of the *outlet*, in order that the sacral side of the head may descend and be nipped by the promontory at the highest point possible. This manœuvre lengthens the lever-arm, represented by a line drawn from the base of the skull to the point nipped by the promontory. Without for a moment relaxing the traction-force, its direction must now be changed to that of the axis of the superior strait, by firmly pushing the child's body backward upon the coccyx. Thus, the gain in the leverage will cause the pubic side of the head not only to glide more readily over the smooth under surface of the pubic symphysis, but also to describe a shorter arc of a circle around the promontory as a centre of motion. After the extrication of the head from the brim, the line of traction must be accommodated to the curve of Carus. Great advantage will be gained if an assistant makes firm pressure upon the vault of the child's head through the abdominal walls of the mother.

HOLT'S OPERATION FOR STRICTURE OF THE URETHRA.

In a communication to the Medical Society of London, November 14, 1870, Mr. J. D. Hill (*Lancet*, December 10, 1870) gave his experience in the treatment of urethral stricture by rupture. He had submitted one hundred and twenty patients to the operation, of whom two, the subjects of organic disease, died. His conclusions in reference to the procedure are as follows: that the operation is the most satisfactory method of treating any form of organic urethral stricture which is amenable to dilatation, and, with careful attention to preliminaries, there is no more risk in its employment than in ordinary catheterism; that when the latter is followed by bad symptoms, then Holt's operation is contra-indicated.

TREATMENT OF ENLARGED TONSILS IN CHILDREN.

Dr. James Martin states (*British Medical Journal*) that an eminent Dublin practitioner finds the sulphate of potassa, administered daily for a month or six weeks, almost a specific for enlarged tonsils in children. From five to fifteen grains are given every morning, with a small quantity of rhubarb and aromatics. The dose should produce mere laxity of the bowels, and must be diminished if it causes purging.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

An easy Method of Bedmaking in Fractures. By E. D. Worthington, M.D., Sherbrooke.

I have a case of fracture of the neck of the femur in a lady sixty years of age, and weighing 160 pounds.

At the time of the accident she received some abrasions of the skin behind the trochanter of the injured side, but as she did not complain of them when the leg was "put up" they remained undiscovered. After a few days, however, these abrasions became so painful that it became necessary to ascertain their exact locality and extent.

How to do this was a matter of some difficulty, as the slightest attempt at moving the patient caused excruciating agony. I therefore adopted the following simple plan, and not having seen any similar contrivance used for this specific purpose, beg to recommend it to the profession, even at the risk of repeating "an old story."

My apparatus is as follows:—Eight pieces of pine—six of them being each thirty inches in length, four in breadth, and three-eighths of an inch in thickness. The other two are three in breadth, three-quarters of an inch in thickness, and the length of an ordinary bedstead; the ends and edges of them all being rounded, and perfectly smooth.

When everything is ready I pass the short pieces separately under the patient from side to side, at regular intervals from the head to the feet—say one at the heel, the calf of the leg, the middle of the thighs, the hips, small of the back, and shoulders. The long pieces are then carefully inserted under the ends of the short pieces. The apparatus is put together in a minute, and one person at each corner lifts the patient steadily on this temporary stretcher. The bed underneath is arranged in two minutes more, without the least feeling of discomfort to the patient. In this way my patient has been moved every day for the last two weeks. As her bedstead is rather low, two ends of the long side pieces

are lifted so as to rest upon the headboard, and a couple of hassocks support the lower ends until the process of bed making, &c., is completed.

In all the stretchers I have seen used, the patient had to be lifted upon them, while in this plan the stretcher is made under the patient. As a matter of safety the four corners may be secured by a pin or screw, but the weight of the patient, and a little care on the part of the attendants, render this unnecessary in a sick room.

It is sometimes difficult for nurses to pass the bed pan well under a patient, but by adopting the above suggestion either the bed pan or ordinary 'utensil,' according to the peculiar notions of invalids on this delicate subject, may be used without risk of making the sufferer a victim of misplaced confidence.

In conclusion, I believe that for 'field use,' the above put together in sets, with a wooden pin to be dropped in a hole at each corner, would be cheaper, more profitable, and in every respect better than the present army stretcher.

HOSPITAL REPORTS.

SURGICAL CASES OCCURRING IN THE PRACTICE OF THE MONTREAL GENERAL HOSPITAL, UNDER THE CARE OF G. E. FENWICK, M.D.

CASE No. 10. *Necrosis of the Humerus. Removal of the Sequestra, Recovery.* Reported by MR. HENRY S. WRIGHT.

O——D——, æt. 19, stone-cutter, admitted to the Montreal General Hospital, on the 12th October, 1870, for necrosis of the right humerus.

History.—Parents living and healthy. He has always enjoyed good health until a year ago, when he suffered from a severe attack of typhoid fever, from which, however, he completely recovered. No scrofulous or syphilitic history. He first complained of a feeling of soreness and pain in the right arm in November, 1869, which he at the time ascribed to a blow. On the day following his first complaint, he noticed the arm somewhat swollen and more painful; these symptoms rapidly increased and on the next morning the whole arm from the shoulder to the hand was enormously swollen, and presented an erysipelatous appearance; was very painful, the pain being of a burning character. He suffered from headache, shivering and vomiting. In short he was the subject of a severe attack of acute ostitis. The inflammation gradually subsided. Two abscesses formed at the upper and anterior aspect of the arm, which after a short time burst, and a fœtid pus was plentifully discharged;

after about a week the discharge became less profuse and not so disagreeable. At this time two more abscesses formed at the lower part of the arm above the elbow, and ran a course similar to the above, so that there were four openings allowing the escape of pus; two at the upper and two at the lower part of the humerus; discharge comparatively little. Up to this time, was confined to bed, and suffered from a bed sore over the sacrum and a large abscess in the left groin, both of which rapidly healed under proper treatment. After the inflammation had subsided in the arm he found he was quite unable to move the elbow joint. He gradually recovered his strength, but the openings in his arm still continued to discharge pus. When admitted into the hospital on October 12th, 1870, his general health appeared good. On examining they arm it appeared to be of normal dimensions, but the humerus was so much enlarged as to constitute nearly the whole thickness of the limb. Elbow joint firmly anchylosed. On passing a probe into the openings they were found to communicate with the interior of the bone, where several large sequestra were discovered, partly loosened. Dr. Fenwick considering the circumstances favourable, removed the sequestra on the seventh day after admission.

Operation.—A free incision was made down the upper and anterior aspect of the arm. Two cloacæ were found in the new bone about two inches and a-half apart. The bridge of bone between these was removed, thus leaving a large opening through which three sequestra, varying in length from two to four inches, in width about half-an-inch, and in thickness three or four lines, were removed without much difficulty. The wound was then filled with lint soaked in carbolic oil, (one to thirty) covered with oil silk, and the arm was bandaged from the hand.

The wound from the first week discharged copious fœtid pus. Granulations grew from the bottom—the pus became healthier and less plentiful, and in a short time healed almost completely.

29th of October.—On examination of the lower opening dead bone was discovered, so that an incision was carried along the outer condyle of the humerus, and two or three small sequestra removed. The same dressing with carbolic oil was employed as on the former occasion.

On the 20th of November a small abscess formed on the lower part of the humerus (anterior aspect); this was opened, and freely discharged matter. The discharge continued for some days, and the part was very painful to the touch.

November 25th.—Was put under the influence of chloroform, and a free incision made down to the bone on the anterior aspect of the arm just above the elbow joint. With the finger could feel a large surface of

the bone roughened, as if denuded of periosteum. A few small fragments of dead bone were removed.

Two days after this last operation erysipelas set in, in the forearm, commencing in the wound. The lotio plumbi diacetatis was applied, and the arm kept well elevated. Iron and quinine given internally. Under this treatment the erysipelas disappeared in forty-eight hours without doing any injury.

These three different wounds were washed daily with tepid water, and filled with lint soaked in carbolic acid lotion (1 to 40 of water) and the whole arm bandaged firmly. They granulated from the bottom and healed slowly and steadily.

Dr. Fenwick stated that subsequent operative interference would without doubt be beneficial in this case with the view of remedying the position of the limb, as anchylosis had been allowed to proceed with the arm in a straight position. For this purpose he would propose in a few months excision of the elbow joint, and he believed that this operation would give to the man a useful limb. He did not regard it advisable to operate at once, as the process of repair was not altogether complete.

The patient was discharged from the hospital on the 1st of February. All the wounds healed up with the exception of two small portions of the first incision, which continues to discharge a drop or two of pus. A few days after being discharged a spicula of bone came away from the upper opening. The pus has ceased to flow and the ulcer is cicatrizing rapidly.

Case No. 11.—*Extensive lacerated wound of the hand and wrist-joint —amputation at the middle third of the fore arm.* — Reported by Mr. John Duncan.

Auguste Papineau, aged 32, native of Canada, was admitted into the Montreal General Hospital, on the evening of Friday, December 2nd, 1870, with extensive lacerated wound of the right fore arm and hand.

He is an employee of the Grand Trunk Railway Company, and while engaged coupling the cars together, his hand was caught between the buffers, the soft parts were ex ensively lacerated, and the bones almost pulverized, so that no semblance of a hand remained. The wrist joint was opened, and the lower ends of the bones of the fore arm broken and exposed. There had been slight hæmorrhage, but not sufficient to occasion any depression of the vital powers. The man looked pale and depressed, but his pulse was firm. The attending surgeon Dr. Fenwick, having been sent for, he determined to amputate at once.

The patient was accordingly placed under the influence of chloroform and the operation proceeded with. The arm was transfixed a little above the middle third. The posterior flap being first made, four vessels were ligated, the radial, ulna, interosseous, and a muscular branch. Some difficulty was experienced in securing the interosseous, as it had retracted within its sheath. All oozing having ceased, the wound was bathed with a lotion of carbolic acid: 1 to 40 of water. The flaps were brought together and secured by six wire interrupted sutures, lint soaked in carbolic lotion applied; over which was placed oil silk, and a bandage, and the patient removed to bed. After recovering from the chloroform, he complained of considerable pain in the arm, so that a draught of solution of morphia was administered.

December 3rd.—He states that he slept only for two hours; that the arm was still painful, but less so than during the night. There is no fever and the general symptoms are favourable. Ordered a pint of beef tea, and half diet.

December 4th.—The bandage was removed and the stump dressed; there was considerable swelling, so that two of the sutures were taken out to relieve tension. There is very little discharge, and the wound looks well. The same dressing was continued, and the bandage was lightly applied. From this date the patient progressed favourably. The ligatures were all away by the tenth day, and the stump looking well, when erysipelas attacked the wound. For this a lotion of sulphate of soda was ordered and was continued for three days; no constitutional treatment was necessary; a black draught was given as the patient's bowels were rather confined. This attack, which was mild, subsided, and the process of repair went on without further interruption.

December 19.—Complains of pain in the arm of a neuralgic character. This he attributes to cold, as he was up and going about the hospital. The pain in the stump is worse at night and interferes with his rest, so that it was ordered to inject subcutaneously 20 drops of Battley's sedative solution of opium: this to be done about bed time. The following day he stated that he rested about two hours. The stump is almost healed, but is tender to the touch. The hypodermic injection to be continued each night at bed time.

The patient left the hospital on the 24th December; the stump was quite healed, but he still suffers at night with neuralgic pain, which interferes with his rest.

Case No. 12. *Extensive injury of Fingers by a Circular Saw. Cellulitis and subsequent removal of Fingers.* Reported by Mr. MATHEW GARDNER.

J. Labelle, æt. 47, a French Canadian, was admitted into the Montreal General Hospital, on the 10th November, 1870, suffering from an extensive lacerated wound of the left hand, which he had received in working a circular saw. The saw had entered the palm of the hand close to the meta-carpo phalangeal joints, had severed the flexor tendons and divided the bones. The index finger was hanging attached by a piece of integument only, but in the case of the other fingers the extensor tendons were intact. There was no bleeding of consequence, but the man was suffering from considerable pain. The wound was carefully washed with a lotion of carbolic acid (1 to 30 of water), the fingers adjusted and supported on a pasteboard splint applied to the back of the hand, and the wound drawn together with wire sutures. Carbolic acid lotion, of the strength above referred to, was then applied with lint and oil silk, and a turn or two of a roller lightly applied. Towards evening he suffered much pain, and a morphia draught had to be administered to secure rest. On the day following he stated that he felt comparatively easy, the fingers looked well with the exception of the index finger, which was cold and rather darkish in appearance. The same dressing was applied warmed.

14th.—On examination to-day it was noticed that the index and little fingers presented a gangrenous appearance. Sanious pus was exuding from the wound, and a collection of matter had formed in the palm. He complained of pain extending up the fore arm. The abscess in the hand was opened, the sutures removed, and hot fomentations ordered to be applied; the fore arm to be painted with tincture of iodine. On the following day a large linseed poultice was ordered by Dr. Fenwick; he stated that there was no prospect of saving the fingers, except, perhaps, the ring finger, but even here the chances were small.

On the 22d a well marked line of demarcation had formed, so that the index and little fingers were removed, as high up as the point sawn through at the time of the accident.

On the 28th it was found necessary to remove the middle finger, but every hope was entertained of saving the ring finger, which, even if stiff, will be of use in prehension, as he has a thumb uninjured; from this date he progressed favourably up to the 16th December, when he had a rigor, the fore arm became hot, swollen, œdematous, and there were general febrile symptoms. Several cases of erysipelas were in the wards

of the Hospital. The patient was ordered an aperient and was also placed on a mixture of quinine and tincture of the muriate of iron.

On the 19th it was found necessary to evacuate the contents of an abscess in the cellular tissue of the fore arm, and as the ring finger was in a very doubtful condition, Dr. Fenwick deemed it advisable to remove it to save any further trouble; this was accordingly done. From this time the wound healed rapidly; his general health improved, and he was discharged from the Hospital on the 27th December.

Case No. 13. *Fracture of the Fourth Metacarpal Bone.* Reported by Mr. J. H. MATHIESON.

William Mathieson, soldier, æt. 26, was admitted into the Montreal General Hospital, December 18, 1870, with fracture of the fourth metacarpal bone of the right hand, caused by a blow on the knuckle. The accident occurred in the following manner:

He is a large and very muscular man, and, while in the barrack room, a comrade threw at him a heavy clothes basket, which he struck at upwards with the back of the right hand; the edge of the basket caught him on the ulnar side of the hand, occasioning the fracture in question.

The hand is very much swollen and painful, but crepitus is distinct; there is no displacement of the broken fragments. Ordered *lotio plumbi diacetatis*.

December 19th.—Ordered to apply a palmar splint of gutta-percha with a finger piece for the ring finger.

January 3rd, 1871.—The splint was removed and the bone found to be firmly united. Discharged.

Case No. 14.—*Comminuted Fracture of the Leg.* Reported by Mr. J. H. MATHIESON.

Francis Chailly, a strong, healthy labourer, æt. 42, was admitted into the Montreal General Hospital, the 19th October, 1870, with fracture of the right leg.

He was engaged in excavating a sewer when the sides fell in, and a plank, which formed part of the scaffolding, struck him on the crest of the tibia, about three inches below the lower border of the patella, comminuting the tibia and fracturing the fibula. There is considerable swell-

ing; very distinct crepitus; free motion; and three-quarters of an inch of shortening.

It was set in a fracture box and packed with bran.

October 23rd.—There is still a good deal of swelling, slight elevation of temperature, and over the fracture on the outer side, distinct fluctuation. He feels well; has not had any rigor or constitutional disturbance.

October 25th.—The swelling is diminishing—the fluctuation is confined to a spot about twice the size of a penny. From this time he progressed favourably, and on the 20th November the leg was taken out of the fracture box, with the intention of putting it up with a starch bandage, but it was found that there was considerable swelling about the feet and ankle; and inside and outside moulded wooden splints were ordered to be applied instead. Union is not very firm.

November 28th.—The union is very much firmer; there is now only the slightest motion; no shortening; and it is quite straight. It was put up in a starch bandage.

December 7th.—Union is quite firm. He left the Hospital to-day.

MEDICO CHIRURGICAL SOCIETY OF MONTREAL.

MEETING HELD 21ST JANUARY, 1871.

George W. Campbell, A. M., M.D., President, in the chair.

William H. Hingston, M.D., L.R.C.S.E., read the following paper upon

MYOTOMY AND TENOTOMY IN CERTAIN JOINT-DISEASES AND THEIR SEQUELÆ.

GENTLEMEN.—I had delayed the preparation of this paper until this week, and most of it had to be written in a sick bed, to which I have been confined during the greater part of the time. If there is anything sickly about the manuscript you will know to what it is attributable.

Joint-diseases, their etiology, history, pathology and treatment, and not less in their sequelæ, are among the most interesting to the practical surgeon. I shall not in this paper, more than is necessary, enter upon those vexed questions which divide surgical writers, nor shall I from a partial experience endeavour to deduce general principles for the guidance of others. But as much of what I shall say is based on a belief in the generally local or traumatic character of uncomplicated joint inflammation, I deem it necessary to make that statement at the

outset. Were I to say more I should invite a discussion foreign to my purpose, and were I to say less, much of what follows would require constant explanation.

Myotomy or tenotomy was introduced to the profession by Stromeyer, of Kiel, in Schleswig-Holstein, for the relief of congenital deformities in otherwise healthy persons. Dieffenbach, of Berlin, employed it not only in such cases, but also preparatory to attempts at removal by forcible extension and *brisement forcé* of deformity caused by disease. He operated 200 times—two patients died from pyœmia and suppuration, and one required amputation. But how inadequate were the results may be gathered from the fact as mentioned by Bauer, that while in some the limb was benefited to a moderate degree, in others anchylosis became re-established. Dieffenbach, however, had accomplished *all* that could be done by any one without the aid of chloroform. Langenbeck, his able successor (by whom I had the advantage of receiving instruction in the winter of 1852 and 3) considered that in chloroform he had an agent powerful as tenotomy, and much superior; and often have I seen him attempting by *brisement forcé* alone what could have been much more easily, and much more safely, accomplished by that measure when preceded by subcutaneous division. Shortly after I began practice in 1853, I attempted, and with fair success, to restore the function of an elbow joint, anchylosed by disease, but the time and trouble to myself, and the suffering, and, as I believed at the time, the risk to my patient, were such as to induce me to avoid rather than to desire a renewal of them in similar cases. Two more cases, however, came under my notice, and while one did well, in the other the swelling, puffiness, heat and pain were of a character to compel me to desist from further attempts to place the limb in a better position—much less to restore motion. The hip joint, however, I had not meddled with, for I recollected how Langenbeck had discontinued both tenotomy and *brisement forcé* after a short and unsatisfactory trial. When (1865-6) Dr. Bauer, formerly of Brooklyn, N. Y, visited Montreal, I listened to his lectures with the deepest interest, and furnished him in my wards at the hospital frequent opportunities of illustrating them. I observed in his efforts a courage equalling Langenbeck's, with a result more satisfactory and less hazardous. Some of the views he then expressed were most original. Dieffenbach, Guerin, Rosy and others had preceded him in the practice of tenotomy as preliminary to all attempts at *brisement forcé*, but to Bauer is certainly due the merit of having first recommended subcutaneous division of muscles as an antispastic and antiphlogistic in certain inflammatory conditions of the joints.

Within a little more than five years I have practised tenotomy in joint diseases frequently; as an antispastic and antiphlogistic in morbus coxæ, three times. In inflamed knee joints five times—in all eight times. As a preliminary to forcible restoration, by traction or *brisement force*, of the normal position of the joint at the knee eight times, and at the hip thirty-three times, in both forty-one times, or in all forty-nine times. The results are various, and may be gathered from accompanying tables.

TABLE I.—TENOTOMY AS AN ANTISPASTIC IN KNEE JOINT INFLAMMATIONS.

Name	Age.	Sex.	Character of Disease.	Duration.	Position of limb.	Muscles divided.	Result.
M. B.	33	F	Synovitis.	6 wks.	Bent at angle of 45	Biceps.	Entire relief.
O. C.	17	F	"	4 "	Bent at right angle	"	" "
A. M.	13	F	Arthritis.	3 "	Slightly flexed.	All hamstring	Relief of pain—disease continued.
M. B.	33	F	Synovitis.	1 "	" "	Biceps.	Relief.—Same person attended to 1st on list.
E. T.	12	F	"	4 "	Bent at angle of 35	"	Tendon had united in interval relieved.

TABLE II.—TENOTOMY AS AN ANTISPASTIC IN HIP JOINT INFLAMMATIONS.

Name.	Age.	Sex.	Character of Disease.	Duration.	Position of limb.	Muscles divided.	Result.
J. R.	13	M	Morbus Coxæ.	2mths	Slightly flexed adducted.	Adductor biceps.	Relief of spasm—disease continued.
E. M.	5	M	"	3 "	Much " "	Add. L. T. Vag. F.	Relief Permanent, disease arrested.
J. L.	8	M	"	3 "	Slightly "	Add. L.	" " "

TABLE III.—TENOTOMY AT KNEE PRELIMINARY TO *Brisement force.*

Name.	Age.	Sex.	Character of Disease.	Duration.	Position of limb.	Muscles dissolved.	Result.
J. C.	16	M	Anchylosis.	8year'	Bent at angle of 95	All hamstring	Limb straightened after 2nd effort—now very serviceable.
F. R.	22	M	"	16 "	" 90	"	Required 3 efforts at intervals of a few days.
E. H.	16	F	"	3 "	" 100	"	Gangrene of foot from bandage, subsequently amputated.
O. C.	17	F	"	6mths	" 50	Biceps.	Straightened 1st effort.
R. T.	13	F	"	8 "	" 90	"	" "
J. M.	10	F	"	15 "	" 85	"	" "
C. M.	18	F	"	2year'	" 135	"	" "No dif'y
J. F.	5	M	"	3 "	" 45	"	" " "

TABLE IV.—TENOTOMY IN MORBUS COXÆ.

Name.	Age.	Sex.	Duration.	Cause.	Condition.			Muscles divided.	Result.
J. F.	8	M	2year'	Fall	3rd Stage Add. inflex. 2½ in. short'ng.			T.V.S.& Add. L.	2½ inches gained, with mobility.
J. P.	7	M	1½ "	"	"	2¼	"	Add. L.	2¼ "
E. M.	7	M	3 "	?	"	1¼	"	T. V. F. Add. L. S	1½ " and full abduction
R. T.	28	M	23 "	Fall.	"	3½	"	Add. L. & brl. forcé	0 " but power of "
A. L.	13	F	6 "	?	"	3	"	Add. & bris. forcé	0 " no improvement.
B. T.	16	M	9 "	Fall.	"	2¾	"	Add. L. P. & T. V. F	2 " moderate mobility
V J P	4	F	1 "	"	"	1½	"	Add. T. V. & P.	1½ " full plump. of limb
P. D.	6	M	1½ "	?	"	2	"	Add. L.	1¾ "
C.MC	53	M							
J. C.	23	M	1 "	Crush	"	3½	"	T. V. Add. L.	3½ "
E. M.	5	F	1½ "	Fall.	"	2	"	Add. L.	1¾ "
M.W.	15	F	?		"	2	"	T. V. F. & Add. L	0 No after treatment (2)
?	9	M	1 "	?	"	2	"	T. V. F. & Add L.	2 (3)
J. P.	18	M	9 "	Fall.	"	3½	"	T. V. F. Add L.P.	Something gained ultimately, lost want of power to extend or abduct.
L M'I	9	F	3 "	"	2	No	"	T. V. F. & Add L.	Went on to 3rd stage with shortening and adduction.
C. C.	8	F	2 "	"	3	2¾	"	Add. L. T. V. F.	Went on to 4th stage, death
T. G.	8	M	1½ "	"	3	2	"	Add. L. T. V. F.	Still under treatment.
F. B.	7	F	2 "	"	4	1½	"	T. V. F. Add. L.	¾ in. treat. discontin. for drunkenness of mother
J. W.	6	F	½ "	?	3	2	"	T. V. F. Add. L.	1½ in. and much mobility
R. R.	5	M	8mth	?	"	1½	"	Add. L.	1½ "
W. H.	14	M	18yer'	Fall.	3	4½	"	P. Add. L. T. V. F	3 " & power of abduct.
A. H.	6	M	8 "	"	"	1½	"	Add. L.	1½ "
MMG	7	F	9 "	"	"	2¼	"	Add. L.	2 "
S. R.	6	M	6 "	"	"	1½	"	Add. L.	½ " subsequently went to 4th stage.
M. B.	9	M	2 "	"	"	2½	"	Add. L. & T. V. F.	0 "
J. R.	7	M	1½ "	"	"	1¾	"	Add. L. & S.	1½ "
E. B.	5	M	1½ "	?	"	1½	"	Add. L.	1 "
J. M.	7	M	3 "	Fall.	"	1½	"	T. V. F. Add. L.	1 " still under treatm't
A. G.	6	M	1½ "	"	"	1½	"	Add. L.	0 "treat. interfer'd with
MM'C	12	M	2 "	?	"	2½	"	Add. L.	1¾ "
B. L.	13	M	5 "	?	"	2½	"	T. V. F.	Scarcely perceptible imp.
M.W.	8	F	3 "	Fall.	"	2½	"	Add. L.	1½ in. still under treatm't.
A. B.	8	M	2½ "	"	"	1½	"	T. V. F. Add. L.	" "

As an antispastic the operation gave invariably entire relief to pain and spasm. In the first case in which I divided the biceps for inflammation of the knee joint, no pain had been referred to the back of the knee—a small spot immediately below the patella was alone painful. The pain was of the most excruciating character. Yet, no anodyne, no anæsthetic ever gave more immediate or more complete relief than that which followed division of the biceps. In the four other cases relief was most complete but not so marked, as the sufferings which led to the operation had not been so severe in character.

It might be supposed that in some cases, at least, tenotomy might have been dispensed with, and extension alone, under chloroform, would have

*T. V. F. is for sake of abbreviation, put for Tensor Vaginæ Femoris,
Add. L. " " Adductor Longus.
S. " " Sartorius.
P. " " Pectineus.

(2) Operated upon in Edinburgh at request of Sir James Simpson, in June 1867.

(3) Operated in Dublin, in August, 1867.

sufficed. These were tried in *two* cases, but the patient's sufferings were such that they were again put under chloroform and the tendons divided.

As an antispastic in hip joint inflammation the adductor was divided in every instance. Once the tensor vagina femoris, and once, I believe — but of this I am not certain—the gracilis. In these cases, as in those of the knee, relief was greatest where pain and spasm were most severe.

But in *all* relief was marked. In one case, that in which the division had been most extensive—very little pain was afterwards experienced in the course of the disease. After these operations, as well as after those of the knee, absolute rest was strictly enjoined.

In the knee, when tenotomy had been resorted to as a preliminary to *brisement forcé*, division of the biceps alone sufficed in five cases—in the remaining three all the hamstrings were divided. The tin splint and flannel bandages with soft tow cushions were then used.

In the hip joint cases the circumstances under which the operations were performed and the results were so various as to render it difficult to embrace under any general observations, the contents of the above table. In some cases I was disappointed at the paucity of the result where I had expected much; and in others I obtained by steady perseverance results I had scarcely hoped to realize. The unfavourable results were no doubt due—first, to bony anchylosis; or, second, to strong osteophytes extending from one part of the acetabulum to another, or from the acetabulum to the femur; or, third, to the length of time that had elapsed since the inflammatory disease had disappeared, permitting contraction of *all* the soft tissues around the joint, including, perhaps the capsule itself. Sufficient, however, may be gathered from these details to warrant a recommendation of the operation in certain cases. Nor do I think, should the deformity which results from the third stage of morbus coxæ be permitted to continue to exist, without those measures being attempted. Before operating it is difficult to say what tendons require division before the operation shall have been completed. Beginning with the long adductor, and, as I hoped, to finish with the adductor I have been compelled to divide several additional tendons, which seemed to start, as it were, into contraction, so soon as the former had been divided. The force necessary, even after division, was sometimes very great; indeed it was difficult and embarrassing to decide what degree of force could be safely borne without running the risk of adding to the mischief already existing. Sometimes all resistance would quickly vanish; at other times I almost feared for the integrity of the limb. When osteophytes were strong and numerous they would sometimes give way with a loud snap,

or succession of snaps, leaving bystanders to conjecture whether something more important than osteophytes had not been broken. The average duration of after treatment was ten months—in hospital somewhat longer, and in private much over that length of time.

In some cases the weight and pulley were alone used. In others, and by far the larger number of cases, Bauer's extension instrument—*not* as more recently modified by him, and in others that instrument by day, and weights and pulleys by night. The weight was proportioned to apparent strength of patients and resistance to be overcome. Four or five pounds to a child of that age—ten, fifteen or more pounds to stronger persons, but in no case was extension permitted to give uneasiness. Children, especially, bear a certain weight with apparent comfort. The addition of a pound, half-pound, or even a few ounces throws them into excitement. I have noticed the same to follow the subtraction of a small portion of an accustomed weight. Much depends on duly proportioning the weight to be borne. Too little is useless—*too much* is needlessly exhausting.

In every case chloroform has been given to the induction of complete anæsthesia, and no alarming symptoms have shown themselves in any case, although, it sometimes happened, the anæsthetic required to be continued a couple of hours or more.

Admission of air has taken place occasionally; no bad consequences have resulted, except, in one or two instances, trifling suppuration, which delayed for a few days the subsequent treatment.

Although the operation has been performed, first, so as to prevent continuance of deformity in existing, and perhaps still active disease, or to relieve deformity left behind by disease, in no case has the patient's health seemed to suffer. On the contrary, in acute or sub-acute disease, relief has followed generally, and thin, emaciated, ill conditioned children have become plump and healthy looking.

Sometimes it has been thought advisable to give ferruginous medicines, and then the syr. ferri Iod. has been the favourite; in other, and by far the greater number of cases, no medicines whatever have been administered, and sometimes, too, the disease has gone on unrelieved to the fourth stage, with all its dire results.

Although, in many cases, the length of the affected limb has been nearly or entirely restored, there yet remained even in the more favourable cases—where tenotomy and forcible extension had been resorted to in long continued morbus coxæ in third stage—a certain degree of stiffness. Whether that condition ultimately disappears as patients grow older, I am not in a position to determine; nor can I say

whether the affected limb will grow *pari passu* with the other. The case I shall exhibit to-night would seem to indicate that growth is not interfered with.

(Dr. Hingston then introduced a little girl on whom he had operated four years before for morbus coxæ. There had been shortening to the extent of $2\frac{1}{4}$ inches, immobility, and permanent adduction of the thigh. The leg was now restored to its full length, and no limp or stiffness was observable when the little patient walked backwards and forwards upon the table for the inspection of members of the Society. This was the patient alluded to as second case in Table IV. Dr. Hingston stated that other patients had been expected to attend the meeting for the purpose of illustrating his paper, but the inclemency of the weather had doubtless prevented their appearance.)

Dr. FENWICK said, of course, his friend Dr. Hingston, when he spoke of shortening referred to that apparent shortening due to obliquity of the pelvis occasioned by an effort on the part of the patient himself, to bring the two legs parallel. In consequence of the spastic contraction of the adductor muscles of the thigh, the effected limb was thrown obliquely across its neighbour which mal-position could alone be reminded by raising the pelvis on the affected side. In cases treated by him in the Montreal General Hospital he had on several occasions found it necessary to divide the adductor tendons, after which he used the long splint with weight and pulley attached, and generally found that the deformity was readily overcome. He was of opinion that as a rule in affections of the knee joint, tenotomy was not required for the relief of pain, but that rest and position would generally suffice.

Dr. CRAIK expressed surprise that the biceps should be found to be the only muscle affected, and if so how its division should be followed by instantaneous relief to the pain. In his experience affections of the knee joint accompanied by excessive pain were very rare. At the moment he could only recall to his mind two cases, both of them of old standing. In one of these cases he found that the pain was actually increased after tenotomy, and in the other the operation was not followed by any relief. The only explanation he could suggest of the immediate relief to pain by division of the biceps tendon, as mentioned by Dr. Hingston, was that the pain was of a neuralgic character, and that in the performance of the operation, section of the perineal nerve had also occurred.

Dr. SCOTT said he could easily tell Dr. Craik why the biceps was more frequently affected, and why its division was more frequently attended by relief. It was because of the attachment of the short head of the biceps

to the outer lip of the linea aspera; whereas the inner hamstring muscles had no attachment to the femur.

The president (Dr. G. W. Campbell) remarked that in the generality of cases of hip disease, tenotomy did no harm, and where there was actual contraction of muscles it was certainly of service, the results would be better, the length of time required for cure shorter, and the condition of the limb would be superior to any thing that could be produced by a process of natural cure. He desired, however, to ask Dr. Hingston a few questions: 1st, in what direction the knife was used in cutting? 2nd, how soon after division was extension resorted to 3rd, whether Dr. Hingston regarded the division in the light of a curative measure, or simply as a remedy to deformity.

Dr. HINGSTON, in reply to Dr. Fenwick, said in no case was the shortening real. It was only apparent, but that was a circumstance so well known to surgeons that he did not think it necessary to mention it. Real shortening could only occur where there was dislocation; not even the contraction of the adductor muscles alluded to by his friend Dr. Fenwick alone sufficed, for with it there was always associated obliquity of the pelvis, equal in most cases to the apparent shortening. When shortening had existed for a length of time extension alone was incapable of removing it. Concerning what had been said about tenotomy not being required to relieve pain in inflammatory affections of the knee he would say he had found it afford instantaneous and continuous relief where rest and position, backed up with anodynes, had failed. As the operation was easily performed and unattended with danger, why not resort to it? He would advise his friend Dr. Fenwick to try it the first opportunity. In reply to Dr. Craik, and his surprise at the biceps being the only muscle affected. Dr. Scott's explanation sufficed. But the biceps was not the only one. Although it was always involved, it was not always alone, the inner hamstring muscles, in some cases, also requiring division. He could not agree with Dr. Craik in supposing that relief was due to the accidental division of the peroneal nerve. Such a division would be followed by paralysis of the parts supplied, a result he (Dr. H) had not yet had occasion to observe. In answer to the President, he (Dr. H) said he was glad to hear the opinion of the learned president that where actual contraction existed tenotomy was certainly of service. In reply to the other queries, 1st, the knife used was always probe-pointed, after the first incision had been made by a sharp pointed tenotome. A long straight one was used for the tensor vaginæ femoris; a shorter anterior convex one for the pectineus and adductor longus, and a still shorter anterior convex one for the hamstring muscles. The knife was passed

between the skin and the muscles, or tendon to be divided, and the cutting was from without, inwards. One exception, however, to this rule occurred in division of the biceps, when the knife was introduced at right angles to the leg, and made to hug the tendon closely and cuts outwards to avoid the nerve, the accidental division of which had been supposed to give relief. Extension was usually commenced immediately after tenotomy, and not, as recommended by some, after the lapse of four or five days, when the wound would be closed, and all chance of the admission of air prevented. He (Dr. H.) was of opinion that air entered during the operation with the knife, and not subsequently, when the valvular wound was carefully covered up with soft tow, (not cotton) and bandaged. The advantage of proceeding at once with extension is that any undue resistance arising from undivided fibres could be overcome by renewed division, while the patient was still under the influence of the anæsthetic. With regard to the last question—that of the curative power of tenotomy—three very good questions rolled into one, he, (Dr. Hingston,) would say 1st, as an antispastic ? certainly. 2nd, as an antiphlogistic —it might or might not be; it would be if the spasmodic working of the muscles offered, as they often do, hindrance to repose of limb, a condition very often observed in acute inflammations of the joints. 3rd. In several cases tenotomy had been followed not only by relief of pain, but also by early and permanent subsidence of the inflammation. But how much was due to the myotomy or tenotomy, and how much to the rest enjoined, he was not able to determine. He thought both had a share. As a remedy to deformity resulting from disease, it was invaluable, and in cases of long-standing, absolutely necessary. Any attempt at straightening, without tenotomy, a leg, long flexed at the knee, would incur risk, by *brisement forcé* alone, of dislocation of the tibia or of fibula, or both backwards; while forcible flexion would, before a certain period of life, expose the limb to separation of the epiphyses, and at a later period to fracture. At the hip, in long standing cases, division is necessary, and without it extension is impossible.

The President having, in the name of the Society, thanked Dr. Hingston for his interesting paper, the meeting separated.

MEETING HELD 4TH FEBRUARY, 1871.

The Vice-President, Robert Godfrey, in the chair.

Dr. Hingston exhibited to the Society a patient, named Edwin Foster, whose skin was covered with nodulated masses, of a stony hardness.

The patient is 50 years of age, tall, straight and immensely powerful.

His parents are Scotch; both died of inflammatory diseases; has lost five sisters and one brother by phthisis. In early childhood had noticed a small swelling over left temporal region, which remained stationary upwards of forty years. Eight years ago it was torn by a piece of wood, when it grew to the size of a small egg. Five years ago it was removed by Dr. Dubuc, of this city, but the disease returned before the wound had healed. Dr. Hingston had removed it at about the same period every spring for the past *four* years. After last occasion disease did not return, and the skin over temporal region is now healthy and free. Shortly after last operation, in April last, small bead-like bodies were felt in different places in the skin. These have steadily increased in number and in size, until the present, when upwards of two hundred can be counted, varying in size from a marrow-fat pea to a turkey egg. They are all freely movable with, but not in, the skin.

They are apparently all confined to the skin. All the functions of the internal organs are seemingly uninterfered with; the tongue alone gives evidence of the presence—one large nodulated mass occupying the left side of that organ.

Within the past couple of months the large tumor in the lower part of the abdomen opened, and soon we had the characteristic odour of open cancer. Coeval with the opening the patient's health failed considerably. He cannot sleep; is always more or less feverish; his appetite is indifferent; and he is much emaciated. Dr. Hingston then in a short *resumé*, said:

Cancer of the skin commonly occurs secondarily, or by extension; here primarily.

1. History of case; stationary for forty years.

2. Five years ago, when removed for second time, was of an almost bony hardness.

3. Four years ago, when removed, less dense, presenting character of cartilage.

4. Three years; appeared like fibro cartilage.

5. Two years ago, appeared like recurring fibroid; but, unlike recurring fibroid, did not again recur in original site.

6. The surprisingly numerous multiplications of solid growths, some of which are presenting characters like the original; but some, also, rapidly degenerating into scirrhus and open cancer.

Dr. Reddy read the following paper on a case of cholæmia.

On the 11th February, 1868, I was called to see L. B., an infant aged one year and a little over seven months, large for its age, plump and well

formed. Its mother gave me the following history of an accident which befell it nine days previously.

The child's sister, in passing through a doorway from one room to another, tripped and fell with the baby in her arms, at the same time crushing it by her weight. On attempting to lift the body up by the arms it screamed violently, nor could that be effected until the hands were placed under its back and knees, when it was easily accomplished; it then became perfectly tranquil, but any after attempt to lift it under the arms, or touching the abdomen (especially on the right side) reproduced the original distress. This peculiar state lasted for five or six days, when the child could again be lifted or handled without exciting pain or distress of any kind; its appetite had, however, failed considerably, and gradually from the date of the accident. Several simple remedies, such as purgatives, &c., had been tried by the parents, without any favorable result or apparent change, and, on perceiving a yellowish tinge in the eyes, they became so much alarmed they sent for me. I found the child lying on the mother's lap, seemingly at its ease and perfectly tranquil; its skin was hotter than natural, dry and darker in colour than normal, its sclerotics slightly tinged yellow, but not markedly so. Pulse 98; some thirst; no abdominal tenderness, nor did percussion over the hepatic region reveal either enlargement or any other apparent change of that gland; the bowels were very sluggish, only acted upon by aperients, and the evacuations were much lighter in colour than natural; urine highly coloured: it was stated also that its appetite was somewhat better for the past two days. There was nothing in the child's appearance or present symptoms that appeared to me to indicate danger, and I felt in no way apprehensive of any but a favourable termination to the case, and having prescribed a few powders of powdered blue pill, rhubarb and compound cinnamon powder, before leaving I gave directions that should any unfavourable symptoms arise, or no amendment follow, I should be again sent for.

On the 22nd, or eleven days later, I was again called in, when I found the child pretty much in the same condition as when I had last seen it, with this exception, that its appetite had very much declined, its tongue was white and loaded, pulse 110, much thirst. The urine, which I had an opportunity of examining, was of a very dark color, sp. g. 1020, not albuminous; on using Pettenkofer's test, I found the bile acids present, and came to the conclusion that it was a case of biliary obstruction.

I ordered an occasional mustard hip bath, and powders with podophyllin, rhubarb and soda, &c., also a mixture containing the sulphate and carbonate of magnesia, and varied such treatment as the above till the

28th, yet without any apparent advantage. During the past six days the pulse varied from 100 to 110; the stools still light colored and the urine as before.

29th.—Pulse 110; bowels confined; when relieved to-day, motion was almost white, and the urine, which I examined again, presents the same characters. During the course of the day the child suffered a good deal from pain in the bowels, but not lasting more than about a minute at a time. I ordered the warm mustard hip-bath again, and warm linseed meal poultices to the abdomen to be kept constantly applied. I also directed a 20 grain Biniodide of mercury ointment to be rubbed every four hours over the hepatic region till the parts were made tender.

March 1st.—Pulse 112; child appeared dull but seemingly free from pain, and had passed the night much more tranquilly than for the two past, but no decided relief had so far resulted.

March 2nd.—Pulse 120; child appears much worse, its pupils are sluggish and somewhat dilated, not answering quickly to light; its perceptive faculties also seem dull. I learned that since my visit on the previous evening it had vomited twice, refusing all nourishment.

3rd.—A great change has taken place; pulse very rapid; pupils largely dilated; convulsive movements of the right hand and leg, also lateral twitching of the head. Cholemia had now fully set in, and at midnight a severe attack of convulsions ensued which lasted over half an hour, and being again sent for, I found that coma was fully established, and it lingered on, however, till six o'clock the following morning.

On the 6th, assisted by Dr. Ross, house surgeon, Montreal General Hospital, I made a *post-mortem*.

On uncovering the body (which prior to death was only darker coloured than natural) we were both struck with the intensely deep yellow or orange colour it presented, and on making incision through the walls of the abdomen, the same colour pervaded all the structures, the intestines partaking deeply of the same. There was no fluid in the cavity. The liver appeared somewhat diminished in size, and presented a very singular and uncommon appearance, being irregularly covered over on both its surfaces with bright olive-coloured patches, raised from a line to a quarter of an inch from the surface, and to the touch not differing from the liver. These varied in size from that of a split pea, to over one and a half inches in length, and about the same in width. The interspaces were congested and of rather a bright pinkish hue, and on cutting down through one of these olive-coloured spots, it presented the same colour throughout, and dipped deeply into the surface of the liver; some to half

an inch, others an inch and a half; no trace of the lobules being discernable. The gall bladder was of a paler colour than the other structures, full of glairy mucus, like ordinary mucilage, and its duct quite permeable.

The spleen did not appear to have undergone any change; perhaps it might be said to be darker than natural, but the pancreas was nearly double the natural size, presenting, however, no other appreciable change.

The kidneys were more congested than natural, and the supra-renal capsules were also very much enlarged.

The urinary bladder was tense, and contained quite a quantity of dark coloured urine.

The heart and lungs appeared unchanged, with the exception of the colour with which they were also stained; the pericardium contained no fluid.

The brain was not examined.

A microscopical section of the olive-coloured substance presented the following appearances: quite a number of compressed cells were crowded together, which seemed loaded with fat and a quantity of oily matter; there was an absence of blood cells—the entire specimen seemed to be of a dark yellow colour.

On evaporating some of the urine preserved from the autopsy, I obtained quite a number of crystals of Tyrosine and Leucine, and a few crystals of Cystine. There were also a few circular bodies present with which I was unacquainted. In the case which I have just read, and which I have regarded as one of acute atrophy of the liver, there was much in the early history of the disease both to puzzle and render the diagnosis difficult. Occurring at so early an age, too, as in acute atrophy it is more generally confined to persons between the ages of seventeen and thirty-five. It is not mentioned at all as a disease of infancy, nor could I find any case recorded where it was the result of an injury, and it is generally fatal. While on the subject I should wish to draw attention to two cases, apparently very similar; one of which occurred in my own practice, and the other I watched while house surgeon at the Meath Hospital, Dublin. In the first instance the case of a woman six months pregnant, who at this period became partially jaundiced, which increased so much within a period of ten days that any one might be led from the colour to diagnose it as a case of malignant disease. There was continued vomiting, loss of appetite, irregular action, and partial dilatation of the pupils, and drowsiness. Cholæmia might be said to be nearly complete when the woman was prematurely confined of a dead child; recovery then took place, but not speedily.

The second case might be said to be a *fac simile* of the above, with one exception, that she died. I made the *post-mortem* and was struck then with the greenish-yellow patches on the liver. There was no name given to the disease, nor was there any microscopical examination made. She was seen at the time by Dr. Fleetwood Churchill.

We are all well acquainted with infantile jaundice (Icterus Neonatorum,) which we occasionally meet, and which is generally easy of management, indeed, requiring none at all, and is, as a rule, of short duration. Also with that form of transient jaundice which is occasionally met with during pregnancy, and which a few gentle aperients only are necessary to recovery, but neither of these cases have any real resemblance (unless the colour) to the examples I have just read.

The following is a brief synopsis of the discussion which ensued:

Dr. FRASER enquired whether the liver of the child was smaller than usual?

Dr. REDDY said it was smaller, and was dotted over very peculiarly.

Dr. DAVID asked if Dr. Reddy considered the disease to have been the result of the fall, and whether the child was fat?

Dr. REDDY said the disease was certainly due to the accident, and that the child, although not fat, was a well nourished one.

Dr. GODFREY mentioned a case which occurred in his practice a few days previous, of jaundice from obstruction. A large gall stone was passed and the patient rapidly got well. He exhibited to the Society the gall stone which his patient had passed. It was discovered floating upon the surface of the evacuations.

Dr. FRASER remarked that the case just detailed by Dr. Reddy naturally brought up the interesting subject of the manner in which jaundice is produced and proves fatal. Not long ago it was taught by Dr. Budd and others that jaundice was produced in two ways: that is by suppression and retention of the secretion. But since it has been experimentally proved, that all the elements of bile, with the exception of cholesterine, are formed by the liver, the formation of jaundice by suppression is not now thought possible. Dr. Murchison recognized two forms of jaundice, one in which there was a mechanical impediment to the flow of bile into the duodenum, and the other in which no such impediment existed. His theory of the production of jaundice was as follows:—He believes that in health a portion of the bile is absorbed into the blood, and then transformed into products which are eliminated by the lungs and kidneys. But in certain morbid states and when there was an excess of bile, this normal metamorphosis does not take place, and the absorbed bile circulates with the blood and stains the skin and other tissues. Considering

the large amount of bile (50 oz) poured daily into the duodenum as compared with what passes through the alimentary canal, there can be no question, that a large portion of it was in health absorbed into the circulation and eliminated from the system through other channels as pointed out by Murchison. When the amount was excessive, as might be the case from mechanical impediment or excessive secretion, its complete transformation into products fit for elimination by the lungs and kidneys does not take place, and hence jaundice. Jaundice produced in either of the ways referred to was characterized by the presence of the biliary acids and bile pigment in the urine. These elements are not met with in the urine of animals whose livers have been cut out by way of experiment, thus showing that they are not preformed in the blood. The only constituent of bile performed in the blood, according to Dr. Austin Flint, jun., who has largely experimented on this subject, is *cholesterine*. His experiments appear to show, that this was the only fatal element of bile; that when it accumulated in the blood, owing to failure of the secreting action of the liver, it acts, like urea, as a blood poison, which Dr. Flint characterizes as cholesteræmia. The case described by Dr. Reddy appears to have been due to an acute traumatic affection of the liver, characterized by the absorption of much of the bile formed and terminating in atrophy. No doubt the urine must have contained the biliary acids and pigment. Dr. Fraser also spoke of the late experiments of Dr. Bennett of Edinburgh, upon the chologogue action of mercury, saying that this high authority was now of opinion that this drug possesses no specific action upon the secretion of the liver. On the other hand Dr. Murchison believes that mercury produces bilious stools by irritating the upper part of the bowel and sweeping on the bile before there is time for its absorption. Dr. Fraser stated that while calomel was unquestionably useful in congestion of the liver he did not believe it acted, as was usually urged, by stimulating that organ to increased secretion, which might be expected to increase the congestion rather than diminish it. Besides the mode of its action pointed out by Dr. Murchison, he thought it quite possible that the irritation of the duodenum by calomel and other purgatives might be reflected on the gall bladder and cause it to contract and thus evacuate an increased quantity of bile. But whatever the mode of action of the so called chologogues might be, he was satisfied from personal observation, that in the human subject, they increase the amount of bile passed through the alimentary canal and diminish bilious stains on the skin and conjunctivæ.

Dr. HOWARD spoke of the late experiments of Dr. Bennett, of Edin-

burgh, upon the cholegogue action of mercury, saying that this high authority was now of opinion that this drug possesses no specific action upon the secretion of the liver.

Dr. G. W. CAMPBELL (President) would say that although such an observer as Dr. Bennett had declared this doctrine, still, it was an undoubted fact that small doses of mercurials, more especially in children, had a marked effect in those cases in which it is generally recognized that the liver is at fault, connected commonly with loaded tongue, acid-smelling breath, and constipated bowels, with greyish stools. After small doses of calomel or grey powder, they rapidly change to dark brown, or so-called bilious stools. The green colour of the evacuations also after the exhibition of mercury to children is generally looked upon as showing the presence of bile, but Bennett denies that this is the case. Whether or not these newly impressed views be correct, certain it is that we should be foolish to discard our calomel on that account, for many years' experience has proved to him its great value in these hepatic derangements.

Dr. GIRDWOOD said that some believed that purgative doses of a mercurial acted in relieving congestion of the liver simply by the purgation produced, and without any specific action on the organ itself.

Dr. CAMPBELL would object to this view being taken, as saline purgatives are not followed by nearly the same amount of benefit.

The President thanked Dr. Reddy for his interesting paper. Some general business was transacted after which the Society adjourned.

REVIEWS AND NOTICES OF BOOKS.

Lectures upon Diseases of the Rectum. Delivered at the Bellevue Hospital, Medical College, session 1869-70, by W. H. VAN BUREN, A.M., M.D., Professor of the Principles of Surgery. New York: D. Appleton & Co. Montreal: Dawson Brothers.

The class of diseases treated of in the eight lectures comprised in this volume, are among the most common as well as the most troublesome and painful which the surgeon will be called upon to treat. As a rule, however, they can nearly all be relieved, and the experience of a careful observer, drawn from an extensive practice, among such cases, must be of great value. A false delicacy, upon the part of both patient and surgeon, often prevents a correct understanding of rectal diseases and entails upon the sufferer a vast additional amount of pain. A perusal of this little volume of about 194 pages, will do much to impress upon the surgeon the

vast importance of an early attention to this class of diseases. The style in which they are written is pleasing, and a very large amount of thoroughly practical information is given. We believe the experience of Dr. Van Buren has been very large, and we hope yet to see something more exhaustive from his pen upon this subject.

PERISCOPIC DEPARTMENT.

Surgery.

EXOPHTHALMIC GOITRE.

By J. J. Chisolm, M.D., Professor of Operative Surgery and Clinical of Eye and Ear Surgery in the University of Maryland.

Whilst general attention is being drawn to a disease the pathology and causes of which are unknown, cases which differ from an assumed type should be carefully noted. When these become sufficiently numerous, their symptoms can be analyzed and useful deductions obtained. Exophthalmic goitre is one of these obscure diseases now under investigation, its curiously combined symptoms of heart disturbance, thyroid enlargement, and protrusion of the eyeball remaining, up to the present, unexplained. The disease is an insidious one, usually of slow approach, and of very chronic tendency ,—the unsightly and annoying protrusion of the eye being a very persistent symptom.

The first prominent symptom—often the precursor of all the others, and said to be always present—is rapid and forcible cardiac action, with tumultuous palpitation from the least excitement. The frequency of the pulse is rarely below one hundred beats per minute; and the great nervous excitability of those affected, with the accompanying irritability of temper, nearly doubles the heart beats upon trivial provocation. Organic disease of the heart is found only exceptionally. In some cases there may be hypertrophy of the organ, with atheromatous deposit in the vessels, but most frequently the cardiac disturbance is purely functional, and the persons afflicted are young chlorotic women with irregular or suppressed menstruation. The implication of the heart is so very constant that it is called the invariable symptom, and to many observers is a sufficient explanation of the enlarged thyroid gland and the undue prominence of the eye,—being, in fact, the point of departure of all the accompanying symptoms, and the key to the phenomena.

The goitrous affection involves, ordinarily, the entire thyroid gland, but either lateral lobe may alone undergo enlargement: and, although

this hypertrophy is a very common complication, it is not invariably present. The protrusion of the eye is not commensurate with the size of the thyroid gland. In cases in which the exophthalmos is very marked, the thyroid enlargement may be scarcely perceptible; and, again, in cases of huge goitres there may be no eye-symptoms.

The prominent eye-ball, with its frightened stare, is the symptom which attracts most attention. At times it protrudes so much from the orbit as to expose the greater portion of the spherical globe. This protrusion is rendered more conspicuous by the retraction of the upper lid, which widens the palpebral fissure and exposes more of the sclerotic. This blepharitic retraction, with dilatation of the pupil, is recognized as a very early symptom, and is supposed to indicate the neuro-pathological character of the disease, an abnormal condition of the sympathetic,—H. Muller having detected unstriped muscular fibres in the upper lid which receive nerve-influence from the sympathetic. The protrusion of the eye affects vision by stretching the optic nerve, and mechanically interferes with the movement of the ball. Ulceration of the cornea and destruction of the organ sometimes occur.

The following secondary symptoms in exophthalmic goitre are of greater or less frequency: Chloro-anæmia is nearly always present; also dyspepsia, with general debility and emaciation, with buzzing in the ears, dizziness, and fainting-spells, headache, vomiting, and deranged bowels. In females—by far the most frequent subjects of exophthalmic goitre—there exists disturbed or suppressed menstruation. The face is often flushed, with increased temperature, and local sweating, restricted to one side when only one eye protrudes.

These various symptoms, which are more or less prominent, have from time to time attracted the attention of pathologists. Basedow, who in 1840 gave us the first succinct account of this disease, supposed chlorosis and serous effusions to be the cause. Piorry explained the phenomena as sequelæ of heart disease, with consequent interference to the returning circulation,—hence protrusion of the eyeball through congestion of the orbital vessels. More recent observers, among whom are Trousseau, Remak, Recklinghausen, Friedrichs, and Graefe, consider exophthalmic goitre a disease of the sympathetic nerve, either excited by reflex disturbances from distant organs, as the uterus, etc., or by organic changes in its cervical ganglia, or by paralysis of the vaso-motor fibres coursing with the sympathetic. In autopsies, careful examination has exhibited the cervical ganglia of the sympathetic sometimes enlarged, at other times atrophic, and again apparently devoid of pathological changes, even under high magnifying powers. In some of these bodies the eyes have

after death resumed their normal position, whilst in others the eyeballs continue to protrude, and in such the connective tissue which fills the posterior portion of the orbit has undergone hypertrophy.

In the following case, most of the so-called invariable symptoms were wanting, making serious breaks in the chain of phenomena:—

Miss A., aged 19, stout and strong, has noticed for the past five months that her neck was getting large, and that the right eye was acquiring an ugly stare. These symptoms were not connected with any special bodily derangement, nor has she suffered in any way. Her present condition is as follows: she looks pale, although she is very stout and never complains of fatigue; she states that she has never had a colour, and that she can walk many miles without any sensation of fatigue. Her digestion is good; she has a good appetite, is not troubled with constipation, and menstruates with great regularity, with a uniform loss and without pain. She has never suffered from cardiac palpitation; her heart-sounds are clear, pulse full and strong, 85 beats to the minute. She has never had flushings of the face, nor unusual sweating; the thermometer, carefully tried, detects no increased temperature. The right lobe of the thyroid gland is double the size of the left, although it is not conspicuously prominent. The right superior eyelid is pinched up, which prevents it from covering the protruding eyeball. When she looks up to the ceiling, the right superior lid is hidden completely by the orbit; when she turns the eye towards the floor, the lid does not cover more than one-half the exposed portion of the eyeball. When she tries to cover completely the protruding ball, the right superior lid quivers incessantly. The movements of the eyeball are somewhat impaired, the pupil is enlarged, but sight, for both near and distant vision, is perfect Ophthalmoscopic examination shows no abnormal fulness of the retinal or choroidal vessels.

In the above case the exophthalmos and goitre of the corresponding side of the body appeared and progressed simultaneously, but all the other symptoms so marked in by far the majority of cases—viz., cardiac, uterine, gastric, and cerebral complications, and debility—were wanting.

CARBOLIC ACID IN SKIN DISEASES.

Edgar A. Browne, Surgeon to the Liverpool Dispensary for Skin Diseases, contributes to the *Practitioner* an article on the value of carbolic acid in skin diseases.

In all the diseases of the skin for which this remedy has been recom-

mended we have others more or less efficient and convenient. Does carbolic acid surpass these in efficacy or convenience?

In the treatment of tineæ, carbolic acid comes into competition (amongst others), with two well-tried and effective remedies, corrosive sublimate and sulphurous acid. In attempting the comparison—a task which has extended over two years—our author has followed a uniform plan of removing all crusts, scales, or accidental deposits with a poultice or oil, washing the part affected with soft soap, and then applying the remedy for twenty-four hours continually. In tinea circinnata and tinea tonsurans very good results were attained, but nothing "magical," nothing beyond what may be usually seen in the routine treatment of these affections. It perhaps causes a little more irritation than an equal effectual strength of sulphurous acid. As regards convenience, carbolic acid stands at a disadvantage toward corrosive sublimate in the matter of smell, but requires less care in application than sulphurous acid—a point of greater importance in dispensary than in private practice. It may be added to the long list of drugs which can be used for the extirpation of these comparatively trivial diseases, but without attributing to it any sort of pre-eminence.

In favus the doctor has only had one opportunity of trying the acid. The case was recent, resulting from contagion. The patch was oval, about an inch and a half in its long diameter; cups thin but well-formed, perforated by hairs; sporules easily seen under the microscope. No hairs were pulled out, but the part affected, with an additional margin of healthy scalp, was kept close shaved, the crusts removed by soft soap, and a drachm of the crystallized acid in an ounce of glycerine thickened with spermaceti was kept closely applied under gutta-percha. Twice the application was suspended on account of irritation caused by the acid and soap; but the case was under treatment altogether eight weeks. At the end of this time hairs were growing nicely, and no sporules could be found. The mother was told to bring the child at once if a relapse occurred, but nothing was seen of the case for ten months, and probably a cure was effected. It can scarcely, however, be said that corrosive sublimate would not have acted equally well.

In tinea decalvans the acid seems to act injuriously on the young hairs, so our author has ceased to use it.

In pityriasis versicolor the results have been decidedly unsatisfactory, but so uniform in a large number of cases as to leave but little doubt in his mind that carbolic acid is an inefficient remedy compared with others. That it should act worse in this than other tineæ can be explained by the fact that when the disease as in (tinea tonsurans) is situate

in a hair-follicle and around a hair the acid is able to make its way along the shrivelled hair-shaft. But in pityriasis versicolor the disease is situated in the rete mucosum and protected by the outer layer of epidermis. This is hardened by carbolic acid and converted into a covering, which, to a great extent, prevents further penetration. Even when the hardened layer of scales is removed by an alkali or soft soap the result is not so good as with sulphurous acid similarly aided. It must also be borne in mind that liquor potassæ, or the soap diligently applied, will sometimes effect a good cure in this disease, and too much credit must not be awarded to the supplementary application.

In eczema he is accustomed to add half a drachm or a drachm to an ounce of the zinc ointment, and considers it useful in hardening the newly-formed epidermis. In the latter stages of the disease it may be used instead of the tarry preparations with moderate success. The facility with which its strength can be graduated to suit the varying susceptibility of the skin in various cases renders it a convenient application in a disease which varies as much in severity as eczema. But there is nothing peculiar in its actions, nor can any result be attained which cannot be equally effected by the tarry or mercurial stimulants in common use.

In sweating feet it acts remarkably well, stimulating the flabby relaxed skin and hardening the unduly porous epidermis. He recommends it to be used as a lotion, weak at first, but the strength gradually increased till it stings uncomfortably. It may then be disused, and in cases of moderate severity does not require to be repeated for two or three months.

In psoriasis it cannot be compared with tar. Out of a number of cases treated at the dispensary showing no indication for internal treatment, but all kept equally under the influence of arsenic, none have been satisfactory. In order to produce any noticeable effect with the acid it seemed necessary to use it sufficiently strong to cause considerable pain, and then, acting as a mild caustic, it is comparable to the acid nitrate of mercury so commonly employed.

As an anti-pruritic, carbolic acid belongs to the same class as corrosive sublimate and borax, but certainly does not surpass them. It is, however, a convenient addition to an evaporating lotion, and can generally be relied on to relieve itching not dependent upon urticaria or true prurigo. In the former it seems utterly valueless; in the latter it often gives relief for a time.

In scabies and pediculi it is a good remedy, but as we have several devoid, or nearly so, of unpleasant odor, it is not worth considering.

As a caustic, our author confirms all that has been said in its praise. It is easily graduated in strength, and does not spread. Almost anything can be done with it that can be done with other caustics, except, of course, when very great destruction of tissue is required.

On the whole, carbolic acid may be considered a versatile jack-of-all-trades, doing many things fairly well, but in all, except as a caustic, inferior to some master-remedy either in efficacy or convenience.—*Half Yearly Compendium of Medical Science*, July, 1870.

ALMOST COMPLETE SEVERANCE OF THE BODY WITHOUT A BREAK IN THE SKIN.

R. A., aged nineteen, a telegraph clerk, was seen near Camden Road Station at 11.50 on the night of Saturday, June 26th. He was then sober, had over two pounds of money in his possession, and stated his intention of going to Euston Square by the 11.56 train. Although he was known to the officials, and there were very few passengers, no one saw him get in at Camden Road, or get out at Euston Square. The ticket-collector also said that he should have recognized him at once had he been in the train. The train after discharging at Euston, was backed into a shed; and, as two shunters, who had performed this duty, were returning along the line which the train had just passed over, they found R. A. lying on his back just inside the station, straight across the outer rail, with his head between the rails, and his hat tilted over his eyes. He was alive when found, but died in a few minutes. The body was at once brought to University College Hospital. It was clothed in a long jacket, waistcoat, and trousers, of thick, coarse cloth, on which the marks of the carriage-wheels were plainly visible. Only a few pence were found in his pockets. There was not the smallest wound on the body, and only a few abrasions of cuticle across the abdomen. After some hours, pretty extensive ecchymoses appeared. On opening the abdomen, all the abdominal muscles were found completely cut through horizontally, retracted, and curled up, leaving a gap five or six inches wide. The back muscles were in the same condition. The right kidney was cut in half. The transverse colon and a large piece of the ilium were lying free in the abdomen; and the body of the third lumbar vertebra was crushed literally to powder; everything was divided except the skin. The rest of the body was healthy.—*Medical Times.*

Medicine.

TREATMENT OF PLEURITIC EFFUSION.

By Jas. Cumming, M.D., Professor of Practice of Medicine, Queen's College, Belfast.

The operative treatment of effusion in the pleural cavity has recently been the subject of some important observations. The value of thoracentesis—an operation which dates from the earliest times of medicine—has been very variously estimated by many of the most eminent observers. Laënnec seems to have entertained little confidence in its utility Dupuytren performed the operation frequently, and with fatal results in the great majority of his cases, so that in his last illness, when it was proposed to him to allow his chest to be tapped for the relief of a copious pleuritic effusion which existed in it, he is reported to have refused, saying that he preferred to die by the hand of God than by the hand of man. In this country the operation was regarded with little favour, notwithstanding the energetic advocacy of a more extended application of it by Dr. Thomas Davies and Dr. Hamilton Roe. It is to Trousseau probably more than to any other that the more frequent employment of this procedure in recent years is owing. Dr. Bowditch, of Boston, has also performed thoracentesis very frequently, and with great success, and his experience has had much influence in popularising the operation. Nevertheless, there can be no doubt that there is a wide divergence between the practice of physicians in this kingdom and that adopted on the continent with regard to tapping the chest.

The opinion prevalent in this country seems to be that thoracentesis is not to be had recourse to during the acute stage of pleurisy, merely in consequence of the effused fluid having reached a large amount, unless other urgent symptoms, such as marked dyspnea, have arisen. On the other hand, Trousseau has laid it down as a rule, that the chest must be at once tapped in all cases in which there is dulness from the base of the lung to the clavicle in front and to the supra-spinous fossa behind, with displacement of the diaphragm, liver, spleen or heart. The danger which he apprehends from this condition and which he regards as rendering the operation imperative, is that of sudden death apparently from syncope. Some doubt* has been thrown on the likelihood of this mode of fatal issue being a legitimate result of the disease, and it has been suggested that antiphlogistic measures adopted to combat the malady may have had much to do with the production of syncope. The termination of acute

* Gairdner, Clinical Medicine, p. 374.

pleurisy in sudden death has, however, been too often observed in the absence of any lowering treatment to render this explanation satisfactory. Quite recently Dr. Sutton* has recorded a case in which death suddenly occurred in acute pleuritis with only a moderate amount of effusion, not exceeding forty ounces. Another case of a similar kind occurred within the cognizance of the writer of this report. Trousseau has suggested that the explanation may be that the displacement of the heart by the pressure of the fluid may cause such a degree of tension of the large vessels that the passage of the blood through the aorta may be materially interfered with, and that as a result of any unusual effort on the part of the patient the circulation may be altogether arrested; or that in some instances it may occur in consequence of the diminished flow of blood through the vessels giving rise to the formation of thrombi in the cavities of the heart.

Bartels,† who has contributed a paper of great value on the question of the operative treatment of pleuritic effusions, has had several opportunities of making *post mortem* examinations of the changes produced by pressure in the position of the heart and great vessels. He states that the most important effect as regards the circulation is that produced on the intra-thoracic portion of the inferior cava and on the right auricle of the heart, and draws attention to the fact that when effusion takes place into the left pleura it has more influence in producing stoppage of the circulation than when it occurs in the opposite side. In a case of left-sided pleuritic effusion Bartels found that the heart had been pushed to the right side, so that it assumed an almost vertical position with the apex resting on the depressed diaphragm, that the lower wall of the right auricle was folded on itself, and that the inferior cava immediately above its emergence from the foramen quadratum was bent at right angles. This condition of parts must have interfered considerably with the return of blood to the heart, and the effect of any sudden exertion under such circumstances might readily be to altogether cut off the flow of blood through the cava for a short time, and thus bring about a fatal syncope.

In many cases of acute pleuritic effusion, it has been found that after tapping the fluid does not again accumulate. Trousseau has recorded instances of this, and the same fact has been noted by other observers. An interesting case‡ in which tapping the chest was followed by complete and rapid recovery of the patient, has been quite recently recorded by Dr. Constantine Paul. In this case the enormous amount of above

* British Medical Journal, July 17th, 1870.

† Deutsches Archiv fur Klinische Medicin. Band. iv.

‡ Dr. C. Paul. Bulletin Général de Thérapeutique, Dec. 15, 1869.

nine pints of fluid were withdrawn from the chest at a single operation. No fresh accumulation took place, and the patient recovered without a single symptom of disturbance from the thoracentesis.

Professor Kussmaul* reports with great care and fulness the details of sixteen cases in which thoracentesis was performed in his own practice. In six of these, in which the operation was performed under urgent and almost desperate circumstances, permanent recovery followed. Of these six cases five were owing to acute and chronic empyema, and one to acute pyopneumothorax. In a seventh case life was prolonged for a year and a half. In an eighth case, one of acute pleuritis with purulent effusion, the first operation decidedly injured the condition of the patient, probably in consequence of having been too early performed; subsequent operations, however, became necessary, and the patient died phthisical a year after. The ninth case terminated favourably, but not on account of the tapping. The tenth case was an empyema of necessity, with a great amount of pericardial effusion. The eleventh, a similar empyema, with advanced disorganization of the pleura; both these cases ended fatally. The twelfth and thirteenth cases were cases of pyopneumothorax, in which the operation was only performed with the view of paliating the sufferings of the patient, which object was satisfactorily accomplished. The fourteenth case was one of tubercular pleuritis, with hemorrhage at the pleural sac, and was also relieved. The fifteenth and sixteenth were cases of acute pleuritis, with extensive serous exudations, and both ended fatally.

It becomes accordingly a matter deserving the serious attention of physicians whether the employment of thoracentesis might not be advantageously somewhat extended in cases of acute pleurisy with very copious effusion, even in the absence of symptoms of an urgent character.

With regard to chronic effusion, the arguments in favour of the operation are still stronger. In this country it is not considered advisable to tap the chest in consequence of the presence of the fluid, even in considerable quantity and remaining for a long period, if there is reason to believe that it is of a serous and not of a purulent character.

There are several considerations possessing weight which are favourable to the adoption of operative interference at a comparatively early period. Certain changes of some prognostic importance have been found to take place in the ribs and their cartilages in cases of chronic pleuritis. A process of ossification of the cartilages is found† to take place even in

* Deutsches Archiv, Band. iv.

† Parise, Archives Générales. 1849. Wintrich, Die Krankheiten der Pleura. Virchow's Handbuch der Spec., Path. 1855.

young subjects, and an enlargement frequently to a considerable extent of the ribs themselves. The effect of these changes may, as has been shown by Bartels, be very prejudicial to a complete removal of a chronic effusion. If the lung is bound down by false membranes so as to be unable to expand, or if the pulmonary tissue itself has undergone such changes as to render it no longer capable of expansion, then the only way in which the pleural surfaces can be approximated so as to obliterate the space between them and permit of the absorption of the fluid is by the yielding of the chest walls. It will be easily understood that the possibility of this yielding depends in a great degree on the elasticity of the parietes, and that any change which increases their rigidity offers an obstacle which may be an insuperable one to this change of shape, without which removal of the fluid is impossible.

Other considerations favourable to an early performance of the operation are derived from the changes which a lung which has been subjected to long-continued pressure is liable to undergo. It is remarkable how completely this organ may retain its power of being inflated even after having been compressed for a long time, but it does occasionally happen that changes occur in its texture which render it no longer capable of admitting air. The false membranes also, which bind down the lung, may undergo a process of development which may render their yielding impossible, and in this way the expansion of the lung may be prevented.

It has long been known that a tubercular condition of the lung is one of the causes of pleurisy; there is every reason to believe that the converse of this proposition is also true, and that the existence of a chronic pleurisy may be a cause of phthisis. Nor is this difficult to understand by the aid of the additional breadth which our conceptions regarding the nature of pulmonary consumption have recently received. When one lung is compressed, so as to become useless, the needs of the circulation must throw such an additional amount of work on the unaffected lung as to cause a hyperæmic condition of it. This tends to the production of a catarrhal condition under slight exciting causes, and it must be remembered that the free play of the unaffected lung is seriously interfered with, partly owing to pressure through the mediastinum, partly by the pain caused by the respiratory movements, partly to the interference with the diaphragm by the fluid effused. These are precisely the conditions which favour an accumulation of the products of bronchial catarrh within the lung, and the development of those morbid processes which are now regarded as constituting one of the most frequent forms of pulmonary consumption.

It is a fact well known to practical physicians that effusions, which

there is every reason to believe to be merely serous, will for a long time resist all measures adopted for bringing about their absorption. In many instances they cause no apparent injury to the health or strength of the patient; in others they merely diminish his capacity for exertion, and render him unable to rapidly ascend stairs and the like, but otherwise seem to exercise little prejudicial effect. In such cases the question arises how far a physician is justified in leaving matters in *statu quo*, after rest and tonics and diuretics and iodine have failed in causing absorption. It cannot be a matter of indifference to the future of a patient to have a dislocated heart or a depressed liver, even if he does not suffer from the abnormal condition of these important organs at the time. Besides, there is always a risk that under the influence of intercurrent disease the fluid in the chest may become purulent. No physician would hesitate to remove such an effusion if it could be done without exposing the patient to serious risk. In a case recently under the care of the writer effusion was found to exist in the left pleura, displacing the heart to the right side and causing dulness as high as the clavicle. It had accumulated without any marked chest symptoms, and also without any considerable febrile reaction. When the patient came under observation he had been blistered over the affected side and otherwise treated with a good deal of activity. Iodide of iron, diuretics, rest, and abundant nourishment were prescribed with no perceptible effect upon the amount of fluid or on the measurement of the chest. The question arose how long it was justifiable to proceed with remedies of this kind under the circumstances. The patient was to all intents and purposes well, but unable to work from the dyspnea which exertion caused, and he had a family dependant on his exertions. Thoracentesis was decided upon, a fine tubular needle was introduced between the sixth and seventh ribs, and 20 ounces of serum removed by suction, by means of an instrument to be described. Two days after a similar amount was removed. The little operations were almost painless, no suffering being caused except by the trifling prick of the needle. No cough or other unpleasant concomitant occurred, and absorption proceeded rapidly, so that in a week the patient left hospital, and in another fortnight very little dulness and no displacement of the heart remained.

Professor Ziemssen,* of Erlangen, recommends strongly that thoracentesis be performed even in cases of non-inflammatory hydro-thorax occurring in connection with cardiac or pulmonary disease, with tumours in the chest, or with Bright's disease, when the pressure on the lungs

* Ziemssen, Deutsches Archiv, Vol. v, 457.

has attained such an extent as to give rise to deficient aeration of the blood or insufficient circulation in the lung. In accumulations of fluid under these circumstances the operation can be considered as merely palliative, but it has been found to afford a considerable amount of relief. Ziemssen records the case of a patient in whom there were present mitral insufficiency, hypertrophy of the heart, granular kidneys, and general anasarca, and in whom hydro-thorax was present in both sides. The chest was punctured during his illness sixteen times with marked relief to the dyspnea. In these different operations above 20 pints of fluid were removed, and Ziemssen expresses his decided belief that life was considerably prolonged as well as rendered much more comfortable by his interference.

The practical rules laid down by Bartels regarding the selection of cases in which thoracentesis is to be performed, are worthy of consideration.

In all cases of simple serous effusion, accompanied by signs of displacement, the operation is requisite if the physical signs show that absorbtion has not commenced within a moderate time.

It is not advisable to operate as long as febrile symptoms are present, unless there be urgent symptoms, such as distinct and considerable embarrassment of the circulation or of the respiration.

The entrance of air into the pleural cavity is to be carefully prevented in cases of serous effusion.

Purulent effusions are best treated by the establishment of a large fistulous opening, which permits a continuous discharge of the thoracic contents. If these effusions are removed by the trocar they rapidly accumulate afresh and exhaust the patient.

If, on puncturing the chest, an effusion which has been regarded as serous is found to be purulent, it is advisable to remove the trocar and make a pretty large opening at once.

The effusion is almost invariably purulent if pleurisy has occurred in connection with pyemia, puerperal fever, and the like, if a febrile condition continues without any other cause after the effusion has ceased to increase, and is certainly purulent if œdema of the subcutaneous cellular tissue exists on the affected side.

If pneumo-thorax co-exist with purulent effusion, the operation is indispensable toprevent the contamination of the system by septic fluids.

To prevent septic infection it is necessary to cleanse the pleural sac daily, either by injections of water or of a weak solution of common salt, or by insufflation of air.

As regards the choice of an instrument, and the mode in which the

operation is to be performed, we may be permitted to say a few words, inasmuch as this may be regarded as common ground for the physician and surgeon. Opening the cavity of the thorax by means of a bistoury is reserved for those cases in which a permanent fistulous opening is required. The trocar is the instrument usually employed, and Wyman's instrument has been frequently used in connection with the trocar.

"It is difficult, without the lessons of clinical experience, to appreciate the fact that the intensity and quality of heart murmurs are not of much account in judging of the importance of valvular lesions. A murmur very loud, notably rough or musical, it would seem, should denote graver lesions than one which is feeble, soft, and blowing. Experience, however, shows that it is not so. A striking illustration of this fact came under my observation some time since. A gentleman from Cuba consulted me for disease of the heart. He had a musical murmur loud enough to be heard with the ear removed some inches from the chest. The sound had attracted his attention, and this first led him to see a physician. He was told that he had disease of the heart, of which he had previously had no suspicion, having no ailments referrible to that organ, and, indeed, considering himself perfectly well. He became at once a medical curiosity, and he had been examined by many physicians. The case exemplified the fact that the diagnosis of a cardiac lesion is sometimes a misfortune. The man had no peace of mind after the discovery of the murmur. He relinquished his business, and came to this country for medical opinions. The lesion, as regards present importance, was innocuous; and had he remained ignorant of its existence, he would not only have been contented and comfortable, but his condition would probably have been more favourable for the preservation of health.

"It follows, from what has been said, that, with reference to prognosis, it is important to go further in diagnosis than to determine, from the presence of murmur, the existence of an organic disease of the heart. If we except the accident of embolism, we are warranted in saying that, as a rule, in cases of valvular lesions giving rise to murmurs, whatever be their number, intensity and quality, there is no danger, either immediate or near at hand, so long as the heart is not enlarged; for clinical observation shows that, in general, valvular lesions cause enlargement of the heart before leading to more remote effects which involve distress and jeopardize life. Moreover, clinical observation shows that in most cases enlargement of the heart is produced by valvular lesions slowly, the ulterior effects being, of course, proportionately distant. I would remark, in this connection, that, in order to judge of the import of organic murmurs aside from enlargement of the heart, the heart-sounds claim more atten-

tion from stethoscopists than is usually given to them. It is certain that the aortic and the pulmonic second sound can generally be interrogated separately by auscultation; and I believe this statement may also be made with respect to the mitral and the tricuspid valvular element of the first sound. The absence of any abnormal modifications of these several components of the two sounds of the heart is an important point in judging of the innocuousness of valvular lesions, the existence of which is revealed by the presence of murmur.

The difference in the tolerance of chronic affections of the heart is to be considered with reference to the prognosis. What is true of most chronic diseases, namely, that the same lesions are tolerated very differently in different cases, is especially exemplified by the structural affections of the heart. It is truly astonishing how well borne, in some cases, are cardiac lesions of unusual magnitude. A case which recently came under my observation afforded a striking illustration of this fact. The patient, a man of middle age, was suffering greatly from dyspnœa in paroxysms, together with loss of appetite and general prostration, and the case ended fatally within a few weeks after the occurrence of the symptoms just named. I saw the patient a few days before his death, and found the heart enormously enlarged. The apex-beat was in the eighth intercostal space several inches without the linea mammalis; and the dullness on percussion over the precordia was proportionately increased both in area and degree. Here was truly a *cor bovinum*. There were present murmurs, indicating both aortic and mitral lesions. There had occurred an attack of acute articular rheumatism fifteen years ago. Now, prior to a few weeks before death, this patient had seemed to be in excellent health, and he declared that he was so. He was a man of very active habits, engaged in a business (that of a wool merchant in the country) which required much travelling. He had had, on one occasion, an attack of hemiplegia, of very brief duration, which was probably attributable to embolism. With this exception he had not for many years been a patient, considering himself a healthy man. He was a man of temperate habits, but a good liver as regards diet, eating very heartily, and digesting his abundant meals without difficulty; yet it is certain that for several years there must have been very great enlargement of the heart, resulting from the valvular lesions. For some time before the occurrence of grave symptoms referrible to the heart, he had had an unusual amount of mental and physical work, accompanied with much excitement; nervous asthenia and impaired appetite ensued, and, under these circumstances, he began to suffer from dyspnœa. He was compelled to keep the bed; he became despondent; the existence of disease of the heart was forced

upon his attention, and he failed rapidly. The history of this case represents what I have been repeatedly led to observe in other cases, to wit, the tolerance of disease of the heart, while it was advancing, more or less slowly, until it had attained to a great amount, the person affected, in the meantime, not considering himself an invalid, taking no remedies, living freely, and engaged in pursuits involving activity of mind, or of body, or of both. The case also represents a fact which I have repeatedly observed, namely, that from the time when persons with disease of the heart become patients, that is, when they become impressed with a knowledge of the existence of the disease, and are obliged to give up their usual pursuits and habits, they are apt to fail rapidly. It is a *facilis descensus* from that time. The latter fact, as well as the remarkable tolerance of the disease under the circumstances stated, teaches an instructive practical lesson.

"In speaking now of the tolerance of cardiac lesions, I do not, of course, have any reference to those which have already been referred to as innocuous. I refer to lesions which are more or less serious, that is, involving either obstruction to the free passage of blood through the orifices of the heart, or regurgitation, or both these immediate effects combined, together with enlargement by hypertrophy or dilitation separately or in combination.

"All clinical observers who have seen much of diseases of the heart must have been struck with the fact that the inconvenience and suffering attendant on lesions the same in character and extent, differ widely in different cases.

"What are the circumstances on which this variation as regards tolerance depends? This question not only has a bearing on the prognosis but it is of great importance in relation to management. I will devote to it a few remarks.

"In general terms, chronic diseases of the heart, as of other organs, are tolerated in proportion as the functions of the body, exclusive of the part diseased, are healthfully performed. The internal conditions of general health and constitutional strength relate especially to the series of functions which begin with ingestion and end with nutrition. Other things being equal, the toleration is best and longest when, *first* of all, the ingesta are ample; *second*, when digestion is active; *third*, when, owing to adequate assimilation, the constituents of the blood are in normal proportion; *fourth*, when the nutritive supplies in the blood are well appropriated; and, *lastly*, when the secretory and excretory organs do their proper work. Now, a healthful performance of these functions is not incompatible with considerable damage of the central organ of the circulation; and, in

so far as it is practicable to maintain those functions at, or near to, the state of health, the toleration of disease of the heart will approximate to completeness. *Per contra*, the toleration will be incomplete in proportion as the functions of the body, exclusive of the heart, are feebly or imperfectly performed; in other words, in so far as the condition just named of general health and constitutional strength are deficient. The blood may be considered as representing the healthful performance, or otherwise, of the functions of nutritive and destructive assimilation; so that the simple phrase, *healthy blood*, comprehends the grand requirements for toleration."

In the discussion which followed Dr. Flint's paper, the following statistics, based on ninety *post mortem* examinations made in the Bellevue Hospital, New York, were brought forward by Dr. Alfred L. Loomis. They illustrate the question of how often and in what manner cardiac lesions are the direct cause of death :—

"It will be seen that valvular disease, cardiac hypertrophy, and dilatation were present in fourteen cases. Of this number heart-lesions were the cause of death in seven; death was sudden in one, and was caused by stenosis of the mitral and tricuspid orifices.

"In fifteen cases valvular lesions with cardiac hypertrophy were present, in eleven of which the heart-lesions were the cause of death; in five of these death was sudden, and the valvular lesions were aortic in one, mitral in another, aortic and mitral in another, mitral and tricuspid in another, and mitral and pulmonic in another.

"In six cases valvular lesions with cardiac dilitation were present. In four of these the heart-lesions were the cause of death; two died suddenly, in one the valvular lesions were mitral stenosis and aortic thickening, in the other the aortic, mitral, and tricuspid valves were all diseased.

"In forty-six cases valvular lesions were present without cardiac hypertrophy or dilatation. In only two of these were heart-lesions the cause of death, in neither of which was death sudden. Lesions of the coronary arteries were present in three cases; in one death was sudden. Thrombi of the heart were present in six cases, death sudden in one.

"It will also be seen that the number of deaths due directly to heart-lesions was twenty-six In nineteen cases death was sudden; number of sudden deaths due to heart-lesions, ten; number of gradual deaths due to heart-lesions, sixteen; number of deaths not due to heart-lesions, sixty-four. Of the nine sudden deaths not due to heart-lesion, four were from cerebral apoplexy, four from uræmic convulsions, and one from croupus laryngitis."

The present writer regards an instrument which has very recen

come into use as affording facilities for the safe performance of the operation, such as did not before exist. It consists* in a strong glass tube, about the size of an ordinary stomach pump syringe, and fitted up in the same manner with two cocks. In this is an air-tight piston, by pulling up which, with the cocks closed, a vacuum can be formed. For the instrument is arranged a series of tubular needles and trocars, beginning at the ordinary size and decreasing to the finest calibre compatable with sufficient strength. In examining for a pleuritic effusion, it is necessary to introduce the needle into an intercostal space sufficiently far to cover the little lateral openings in it. Then it must be connected with the air-pump, and the cock communicating with the interior of the pump opened, so that the cavity of the needle forms a part of the vacuum. The needle is then to be slowly pushed forward. In this way the tissues are traversed with a tube connected with a vacuum, and the instant fluid is met with it immediately rushes into the glass pump, and its character can be at once recognized.

The advantages of this instrument are at once apparent. Among the objections to the operation is certainly to be reckoned the possibility of an error of diagnosis. Now, although in the vast majority of cases error is by no means likely, it must be remembered that it is far from impossible. The case of a distinguished member of the profession, Dr. Dolbeau, of Paris, has recently attracted a good deal of attention, and has been freely commented upon by the Parisian medical press. In the case† of this gentleman fluid was believed by some of his medical attendants to be present in the pleura, and although there was a difference of opinion as to the diagnosis, it was determined to puncture the chest. Two punctures were made without result, and the needle penetrated the lung in both

* A good deal of discussion has taken place regarding priority of invention with respect to this instrument. The instrument used by the writer is that called the Pneumatic Aspirator of Dr. George Dieulafoy, of Paris, and has been patented by the Messrs. Weiss, the well-known instrument makers. An instrument identical in principal, and closely resembling it even in detail, was exhibited by Dr. Protheroe Smith at the recent meeting of the British Medical Association in Newcastle-upon-Tyne. Dr. Smith claims to have invented and employed this instrument several years before Dr. Dieulafoy's introduction of his aspirator. A commission of the Academy of Medicine of Paris, consisting of Messrs. Broca, Jules Guerin, and Denonvilliers, examined into the question of priority, and reported at the meeting of July 27 of the present year, that an instrument identical in principle had been exhibited by M. van den Corput, Professor in the University of Brussels, as early as 1855, and that M. Laugier, the well-known surgeon, had also about the same period employed a similar instrument. The report of the commission will be found in the Archives Générales for September.

† Gazette Hebdomadaire, May 6, 1870.

instances without producing any bad effects. Twelve days later a considerable amount of fluid was found and removed by operation. It was the opinion of Barth, an auscultator of the highest eminence, that fluid was present in the first instance, but that local adhesions had occurred at the sites of the puncture. It is known that even in the hands of Laënnec the liver was once perforated by a trocar in an operation of this kind. An advantage of no mean importance in the employment of this instrument consists in the harmlessness of such errors; as the puncture of the lung by the fine needle employed is not found to be followed by any evil results.

Another advantage is the comparatively painless character of the operation. Not only is the puncture itself attended with very slight pain if a fine needle be used, but the removal of the fluid, which takes place very slowly and gradually, is not accompanied by the troublesome paroxysms of cough which have been noticed to attend the evacuation of the chest by the ordinary means. These points were brought under the notice of the profession by Blachez,* who advocated an operation which he described as capillary thoracentesis. The admission of air is also completely prevented, and although the experience of those who have employed the operation repeatedly does not point to this accident as one of much importance, still it must be regarded as a thing to be, if possible, prevented.

Experience has shown that it is not by any means necessary to withdraw the whole of the effused fluid. The removal of a portion is in many cases all that is necessary for the prevention of absorption. Once the excessive pressure has been diminished the increased activity of the absorbents becomes sufficient for the task to which they had been before unequal.

A method of employing the syphon-principle in the removal of fluid from the pleural cavity in combination with a mercurial pressure-gauge, which enables the operator to ascertain at any moment the degree of fluid pressure within the pleura, and the amount of syphon-power employed has been suggested by Dr. Douglas Powell.† If the syphon-principle be adopted in the operation of thoracentesis, the pressure-gauge will certainly be found an important aid in regulating its application; but there is no very obvious advantage to be gained by the employment of the syphon. An exhausting syringe seems to afford an equally efficacious, as well as a more convenient and manageable mode of withdrawing the fluid.

An instance of a totally different method of dealing with pleuritic effusion has been reported by Glauert,‡ from the clinic of Niemeyer. The

* Bulletin gén de Thérapeutique, Nov. 15, 1868.

† Transactions of the Clinical Society of London. Vol, iii, p. 240.

‡ Berlin Klinische Wochenschrift, Feb. 7, 1870.

treatment adopted was a modification of what is known in Germany as the Schroth cure. The patient was forbidden to take any drink or fluid nourishment whatever, and his diet consisted of bread and slightly salted sausages. The attack of pleuritis had lasted fifteen days before this treatment was commenced, and the physical examination revealed effusion in the right pleural cavity, extending upwards to the third intercostal space; all febrile reaction had ceased. During the first two days of the treatment the patient suffered greatly from thirst, and was scarcely able to swallow anything, owing to the dryness of his mouth. He adhered, however, rigorously during three days to the directions given him, with the exception of licking with his tongue some of the moisture deposited on the inside of the window panes.

During the three succeeding days he was allowed half a pint of wine daily. The amount of urine secreted during each of these three days averaged only fourteen ounces and a half. Absorption of the fluid took place rapidly. On the fourth day of the treatment friction sounds re-appeared, and on the sixth day dulness was only recognizable immediately above the liver. The patient was now permitted to eat and drink as he pleased, and in two days was completely well. His appetite and general condition were good, and all traces of effusion had disappeared. It seems from the experience of German physicians that this highly irksome and disagreeable plan of treatment can be put in practice without risk to the future health of the patient, in the great majority of cases at least.—*Dublin Quarterly.*

PROGNOSIS IN CHRONIC DISEASES OF THE HEART.

An important paper on this subject was read before the Medical Society of the County of New York, by Dr. Austin Flint, in March of the present year, and will be found in the *New York Medical Journal* for May. It discusses a subject about which there is still much misunderstanding, and the following remarks will be found to be worthy of the high reputation of Dr. Flint as an authority on the subject of cardiac disease:—

"An important aspect under which the prognosis of chronic diseases of the heart is to be considered is the innocuousness of certain lesions. Lesions of the valves, as is well known, are represented by adventitious sounds known as endocardial murmurs. By means of these murmurs the existence of valvular lesions is determined, and they are readily localized. If there be found, in any case, endocardial murmur or mur-

murs persisting, and not due to a morbid condition of the blood, we have the proof of a chronic structural affection ; there is organic disease of the heart. But the lesions which give rise to murmurs are by no means always of importance as regards immediate or even remote evil consequences. They may be devoid, not only of danger, but of any morbid symptoms. There are many persons pursuing their various avocations, and wholly unconscious of any malady, who, if auscultated, would be found to have organic disease of the heart. In a certain proportion of these persons the existence of cardiac disease will hereafter be manifested by symptoms and morbid effects; some may at length die from the disease, but in not a few, even if life continue for many years, the only evidence of the disease will be, as now, the presence of one or more of the cardiac murmurs, and death will be caused by some affection which has no connection with the lesions existing in the heart. In cases of innocuous lesions the harm of physical diagnosis is sometimes apparent. Let the simple statement be made authoritatively to one having an innocuous lesion that he has an organic disease of the heart, and he will be likely to look upon himself as doomed. If he be a timid, nervous man, he has received a moral blow from which he does not recover. He sees a sword suspended over him. He is under sentence of death. Not only is he hurt as regards his comfort and happiness, but the depressing effect of the diagnosis, and the altered habits of life to which it may lead, sometimes contribute to impair health, and tend, perhaps, to shorten life.

"I would not for an instant have it supposed that I mean to disparage physical diagnosis. I wish only to place in a strong light the importance of going further than to the fact of the existence of organic disease of the heart. In other words, I would prepare the way for saying that, with reference to the prognosis, more information than the murmurs can furnish is indispensable. What has just been said concerning the long-continued innocuousness of cardiac lesions, I may add, is warranted by my own observations. I have records of cases in which organic endocardial murmurs existed from ten to thirty years ago, the persons now living, and exempt from ailments referrible to disease of the heart.

Materia Medica and Chemistry.

NOTES ON CHLORAL.

BY DR. H. Y. EVANS.

It seems to me that the remark so often made "that we are governed by fashion in medicine" is an erroneous one. The underlying cause of the disposition to change and drop certain remedies after a period of varying success is owing, in a great degree, to the use of an inferior preparation. The numerous reported failures in the use of hydrate of chloral seem to make this fact especially true in regard to this drug.

I have noted the effects of this drug in twenty-four consecutive cases. In the first *sixteen* cases (in doses of grs. xxv to xxx) its effects were really delightful. In the *seventeenth* and *eighteenth* it failed in producing anything but delirium and a subsequent headache. In the *nineteenth*, *twentieth* and *twenty-first* cases the effects were entirely satisfactory. In the *twenty-second* (nephralgia), grs. xxx, repeated every hour for three hours, resulted in wakefulness and headache. The use of it in the *twenty-third* and *twenty-fourth* cases resulted, within an hour, in vomiting and delirium, and, at the expiration of eight hours, a heavy, unpleasant sleep. Cases *seventeen*, *eighteen*, *twenty-three*, and *twenty-four* were most suitable ones for happy effects. The failure, therefore, made me anxious to discover the cause On inquiry as to the character of the preparations used in these cases, I was convinced that three out of four of my failures were directly due to the use of an inferior and deleterious drug. These preparations had a heavy, dead, camphory odor, and, in one instance, a dirty appearance. The fact mentioned by Dr. Baldwin—that a small dose (grs. xv) largely diluted (in f ℥ ij of fluid) seems to act *more promptly* and more pleasantly than a large (grs. xxx) one sparingly diluted (in f ʒ iij of fluid)—is an important one; and I am so convinced of its truth that I invariably act upon it.—*New York Medical Times.*

Canada Medical Journal.

MONTREAL, FEBRUARY, 1871.

CASES OF ALLEGED MALPRACTICE.

The practice of the profession of medicine or surgery is the most thankless and onerous occupation that any man can well undertake, and were it not for the earnest hope of aiding our fellow-man in his afflictions and difficulties, few, we believe, would subject themselves to the amount of harassing labour, and mental distress, which each case must entail on the conscientious practitioner. If in any case, all goes on well, the practitioner is loaded with adulation, and many a time his cheek is made to tingle with fulsome flattery; on the other hand, if through misfortune or the many accidents against which he cannot provide, evil befalls him and death or disaster attends his best directed efforts for his patients welfare, he is too often assailed with abuse, and now and then subjected to the annoyance of misrepresentation or a suit at law for malpractice. If a physician or surgeon does not fulfil all the expectations of busy friends or anxious relatives, if constant and faithful in his attendance, battling manfully, inch by inch, the disputed ground with disease or death, and is in the end unsuccessful, he is too often censured for unskillfulness or want of judgment, if not looked upon as criminally neglectful of the first principles of his art, and a howl of indignation and contumely is directed against him. This we can all endure in silence, it is the experience of every man at some period of his career; 'tis true in some exceptional cases, the natural good sense and honest conviction of those who have injured us, will lead occasionally to explanations and expressions of regret for words hastily used. It is not enough that a physician or surgeon should be unremitting in his attendance on his patients, to give general satisfaction he must be successful. His attendance is little appreciated by the public generally, he may sacrifice time, health and his very life in the service of his fellow-man and in the end be regarded as a bungler. These reflections have been forced from us from the frequent occurrence of prosecutions for alleged malpractice; they are becoming so common that the profession begin to see the urgency of seeking for some measure of Legislative protection. It has been suggested that a special enactment should be secured to oblige all litigants

in matters of alleged malpractice, before entering a Court of Law, to give security for costs in case of defeat: to this we would add a clause rendering it a misdemeanour to prefer a charge of malpractice which cannot be fully proven and substanciated.

We would as fully expose a glaring wrong done to an individual or society, by the criminal negligence of a physician or surgeon as we would lay bare a crime perpetrated against law, but it is a subject of deep concern to all practitioners to know that at any moment they may be called upon to answer to a charge of malpractice instigated through malice or the desire of gain. Regarding the law as it stands at present, no man is safe, and if it is to become the rule it will result in physicians and surgeons refusing absolutely to assume the responsibility of the medical or surgical charge of every doubtful case.

We cannot hide the unpalatable fact that many of the cases of alleged malpractice have been suggested and hounded on by some unworthy member of the craft. Some wretched brother, who, through ignorance or jealousy, is induced to make statements glaringly untrue, and thus misleads the complainant, but it is not always so, as the hope of gain will induce many a man of straw to enter an action against his physician or surgeon for malpractice, more especially if he thinks that the defendant will "come down handsome," rather than be bothered with a prosecution which may affect his reputation. This appears to have been the object of the parties in two cases of alleged malpractice recently disposed of in the United States. We allude to the suits for malpractice preferred against Dr. Lewis A. Sayre of New York, and Dr. John J. Rees of Philadelphia. Both these cases could at any time have been settled by an insignificant sum; but these gentlemen, fully alive to the high interests involved, refused all compromise, and the merits of the case in each instance was handed to, and adjudged upon by, a jury of their countrymen; in both instances the plaintiffs were discomfited. This happy result has not attended every case of the kind; on more than one occasion the practitioner has been heavily mulct in damages, even in cases where no malpractice has been proven; such is the uncertainty of the law, more especially when questions of this nature are referred to a jury of unprofessional men. We give below an extract from Judge Thayer's charge, in the case of "Haire *vs.* Reese," which is to the point, and we hope, with the Editor of the New York *Medical Record*, "that the results in these two cases will do much towards putting an end to these experiments of unjustifiable lawsuits, against skillful, attentive and humane physicians."

Extract from Judge Thayer's charge to the jury in the case of Haire *vs.* Reese.

"The implied contract of a surgeon or a physician who attends a patient is, not that he will entirely effect a cure, but that he will use all known and reasonable means to accomplish the object, and that he will attend his patient carefully and diligently. His relation to his patient implies that he possesses, and will employ in the treatment of the case, such reasonable skill and diligence as are ordinarily exercised in his profession by thoroughly educated surgeons and physicians . . . and reasonable skill and diligence, means such skill and diligence as educated and faithful surgeons or physicians ordinarily employ.

"No presumption of the absence of proper skill and attention arises from the mere fact that the patient does not recover, or that a complete cure is not effected God forbid that the law should apply any rule so rigorous and unjust as that, to the relations and responsibilities arising out of this noble and humane profession. . . . On the part of the patient it is his duty to conform to the necessary prescriptions and treatment, if there be such as a surgeon or physician of ordinary skill and care would adopt or sanction; and if he will not, or under the pressure of pain, cannot, the surgeon or physician is not responsible for injury resulting therefrom." —*Medical Record.*

AMERICAN MEDICAL ASSOCIATION.

The Twenty-second Annual Session will be held at San Francisco, Cal., May 2nd, 1871, at 11 A.M. The following committees are expected to report. On the Cultivation of the Cinchona Tree, Dr. Lemuel J. Deal, Pennsylvania, Chairman; On Inebriate Asylums, Dr. C. H. Nichols, D. C., Chairman; On Institutions for Inebriates, Dr. Joseph Parrish, Pennsylvania, Chairman; On the Structure of White Blood Corpuscles, Dr. J. G. Richardson, Pa., Chairman; On Vaccinnation, Dr. Henry A. Martin, Mass, Chairman; On the Comparative Merits of Syme's and Piragoff's Operations, Dr. George A. Ottis, U. S. A., Chairman; On Lithotrity, Dr. E. Moore, New York, Chairman; On Veterinary Medicine, Dr. Samuel D. Gross, Pennsylvania, Chairman; On Protest of Naval Surgeons, &c., Dr. W. S. W. Ruschenberger, U. S. N., Chairman; On National Medical Schools, Dr. Francis Gurney Smith, Pennsylvania, Chairman; On American Medical Association Journal, Dr. James P. White, New York, Chairman; On Criminal Abortion, Dr. D. A. O'Donnell, Maryland, Chairman; On Nomenclature of Diseases, Dr. Francis Gurney Smith, Pa., Chairman; On National System of Quarantine, Dr. J. C. Tucker, California, Chairman; On What, if any, Legislative means are expedient and advisable, to prevent the spread of Contagious Diseases, Dr. M. H. Henry, New York, Chairman; On Re.

newal of Prescriptions by Apothecaries without Authority, Dr. R. J. O'Sullivan, New York, Chairman; On American Medical Necrology; Dr. C. C. Cox, D. C., Chairman; On Medical Education, Dr. Ely Geddings, South Carolina, Chairman; On Medical Literature, Dr. P. G. Robinson, Missouri, Chairman; On Prize Essays, Dr. T. M. Logan, California, Chairman; On the Climatology and Epedimics of:—Maine, Dr. J. C. Weston; New Hampshire, Dr. P. A. Stackpole; Massachusetts, Dr. H. I. Bowditch; Rhode Island, Dr. C. W. Parsons; Connecticut, Dr. J. C. Jackson; New York, Dr. W. F. Thoms; New Jersey, Dr. C. F. J. Lehlbach; Pennsylvania, Dr. D. F. Condie; Maryland, Dr. C. H. Ohr; Georgia, Dr. Juriah Harriss; Missouri, Dr. F. E. Baumgarten; Alabama, Dr. R. F. Michel; Texas, Dr. S. M. Welsh; Illinois, Dr. R. C. Hamil, Indiana, Dr. J. F. Hibberd; District of Columbia, Dr. T. Antisell; Iowa, Dr. J. C. Hughes; Michigan, Dr. G. P. Andrews; Ohio, Dr. T. L. Neal; California, Dr. F. W. Hatch; Tennessee, Dr. B. W. Avent; West Virginia, Dr. E. A. Hildreth; Minnesota, Dr. Charles N. Hewitt; Virginia, Dr. W. O. Owen; Delaware, Dr. L. B. Bush; Arkansas, Dr. G. W. Lawrence: Mississippi, Dr. J. P. Moore; Louisiana, Dr. S. M. Bemiss; Wisconsin, Dr. J K. Bartlett, Kentucky, Dr. L. P. Yandell, Sr.; Oregon, Dr. E. R. Fisk; North Carolina, Dr. W. H. McKee.

Secretaries of all medical organizations are requested to forward lists of their Delegates as soon as elected, to the Permanent Secretary.

☞ Any respectable physician who may desire to attend, but cannot do so as a delegate, may be be made a *member by invitation*, upon the recommendation of the Committee of Arrangements.

W. B. ATKINSON, M.D., *Permanent Secretary.*

CHLORAL HYDRATES.

Messrs. Morson & Son feel it necessary for their protection to inform their friends that the statement made by Mr. A. H. Mason, a gentleman in the employ of Messrs. Evans, Sons & Co., Druggists, of Liverpool, in a paper on Chloral Hydrate, and its preparations, read at the Chemists' Association in Liverpool, and published in the Pharmaceutical Transactions for January, is entirely incorrect as regards the strength and purity of the Hydrate furnished by Messrs. Morson & Son, and also as regards the preparation of this substance by several eminent German makers to whom great injustice is done. Although this publication would be considered by most readers as a Trade advertisement, yet its hasty publication in the *Pharmaceutical Journal* requires that it should not pass unnoticed and uncontradicted.

31, 33 and 124 Southampton Row, London.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Chloral Hydrate. A lecture delivered during the session, 1870–71. By WILLIAM WRIGHT, M.D., L.R.C.S.E., Professor Materia Medica, McGill University.

The chief steps for making chloral, C_2 HCl_3, by Liebig's plan, are to pass chlorine gas through absolute alcohol to saturation, to treat the mixture with concentrated sulphuric acid and collect the product.

Thus got, it is a limpid fluid, sp. gr. 1·502, boils at 201. When mixed with water it developes much heat and becomes a white, crystalline hydrate. It is commonly seen as a solid, in irregular fragments, made up of fine acicular pieces aggregated together. At first they are transparent, but they soon become opaque and have a tendency to effloresce. They sublime unchanged by a slight heat, are easily soluble in water, and exhale an odour something like that of melons. The taste is pungent, and approaches to that of a bad bitter orange. The watery solution when acted on by free alkalies, grows opaque and milky-looking, and is transformed into a formiate of the base and chloroform.

Chloral comes to us with a great flourish of trumpets; from what we hear of it, almost in every medical paper we take up, we would expect to find it a safer, surer, and quicker hypnotic than any other hitherto used.

Firstly.—It is SAFER. Opiates, as you know, after they are taken, leave behind a faulty state of the digestive system and of secretion. It is not so with chloral. One of its great advantages is, that it leaves after its action no dryness of the mouth, furred tongue, bitter taste, thirst, nausea, loss of appetite, constipation, &c.; nor does it cause dry skin, scanty urine, &c. On the contrary, after chloral, the appetite is often more keen and indigestion unheard of. Other narcotics tend to increase the destructive powers from the injury they cause in weakening the stomach. It is the reverse with chloral, it rather raises up the formative processes by promoting assimilation. The difficulty hitherto felt in chronic wasting diseases, as phthisis, cancer, &c., of giving sleep so

as not to impair the general tone is now removed. Again, opiates are apt to leave a feeling of depression and other marks of disordered innervation. The only symptom of the kind after chloral, in proper doses, has been headache. Where the patient has his sleep out it does not occur; and, under any circumstances, it has not happened in more than ten per cent. of those who have taken the drug, and it has not lasted more than an hour. The very cases where opiates are likely to be injurious are those where chloral may be employed beneficially; for example, certain brain affections where cerebral congestion threatens to be imminent, and especially cases of uremic poisoning; also in certain cardiac cases, where to stimulate the heart or embarrass the respiration would be detrimental, chloral may be safely given, as it induces neither of these effects.

Secondly.—Chloral is SURER than other agents of the same class. Its action is not so likely to be prevented by the conditions that oppose these others. It has a wider range of applicability. Usually it may be given wherever sleep is needed, be the cause almost what it may. It may be resorted to under circumstances quite opposite to one another, in insomnia attended with gastric disorder or nervous exhaustion—with fever or without—with delirium or not—with structural brain disease or mere anæmic disorder. It is not contra-indicated by any age; it is as appropriate in early or advanced life as during the intermediate periods. Chloral sleep is, again, more prolonged, more calm, more refreshing than sleep from other narcotics. Like other medicines, however, it may fail, but its failures are less frequent. In three cases where it was given under my directions, at the General Hospital, it failed. In one case ʒij was the dose, in each of the others ʒ ss. In these it caused either a slight dizziness or drowsiness with more or less of a feeling of intoxication. One of these persons was in the habit taking an after dinner nap, and he blamed the chloral for keeping him out of it, as it had been given just before, and he continued wide awake afterwards. These three patients did not need it. They knew what was expected to happen, and the interest this aroused may have helped to defeat the end in view. In upwards of seventy persons to whom it was given in the Royal Infirmary, Edinburgh, no sleep is reported to have followed in thirty. In some rare instances its effect is postponed for twenty-four hours, as sometimes occurs with morphia, &c. The success of chloral depends upon the circumstances under which the patient is placed, his habits, the time of its administration, quality, &c. Much talking, or a bright light in the room, or moving about of the patient, will impede its action, as they do the action of other cerebro-spinants. Inebriates appear to resist its action

or to require larger doses than the temperate. Administering a stimulant with chloral seems to weaken its effect. The worst time for exhibiting it is generally the morning, the best about half an hour before bedtime. Lastly.—It is very important it should be pure. The chief impurities are alcohol and aldehyd. Instead of being an hydrate it may be an alcholate, alcohol taking the place of water with the base. It is then weaker, as it contains but 76·3 per cent. of real chloral instead of 90 per cent. To detect alcohol I would suggest the same tests as those mentioned yesterday, when lecturing upon chloroform. Aldehyd is less common, as an addition, than spirit. It arises from acetic acid present in the material of which chloral is made.

Thirdly.—Chloral is QUICKER than many older sleep producers. Its celerity in medicinal doses is often equal to that of other narcotics in fatal doses. Sleep begins in from ten to twenty minutes, and lasts from half an hour to five hours or more. I have seen it act, however, more quickly than this. A common expression with patients is, they fell asleep soon after, or just after, taking the medicine. The usual dose advised is ℈ij. I think it unnecessarily large as a rule. If good, and the conditions favorable, ℈j or ʒ ss, will suffice. In one case where I gave it, ℈ss was enough. It was that of C. W., æt. 19 years, who had been admitted after her first confinement, for sub-acute rheumatism. The dose was repeated thrice daily, and each time sent her asleep before many minutes were over. The largest amount I have prescribed has been 120 grains, in divided doses, during 24 hours. J. B., while in hospital with necrosis of the sternum, caught typhoid fever, which was ushered in by profuse diarrhœa. From night time to the visit hour, 10 a.m., he had about twenty stools. Chloral though given to the extent of ʒ ij, as stated, was well borne, moderated the purging, and was followed by no worse effect than great drowsiness. Eighty grains is the largest single dose I have read of. Dr. Madden directed it to be given in a case of hysterical mania, where there was violent excitement, coming on suddenly. It caused sleep for several hours, from which the patient awoke more composed. There were no bad results. Larger daily doses have been given in tetanus, perhaps, than in any other disease,—chloral falling in with other remedies equally tolerated on as huge a scale. From ʒ iss—iij have been taken in divided quantities in the day, without exciting any tonic symptom.

The CHARACTERS OF THE SLEEP from chloral are these: it is like natural sleep, but more deep; it is sound, not broken by starts or dreams, the patient is easily awoke, and generally, if not much disturbed, soon drops off again, he may be wakened to take nourishment, &c., in the

meanwhile; the pupils as in natural sleep are contracted and dilate on awakening.

The INFLUENCE of Chloral Hydrate ON ANIMAL HEAT has been variously stated. The conclusions arrived at from some experiments in th Royal Infirmary, Edinburgh, were, that it caused little or no reduction in the heat of fever: though in health it makes a decrease from ½ a degree to 2 degrees. At my request Mr. W. G. Ross paid special attention to the first of these points, viz., the influence upon fever heat. The observations for more ready use he arranged in tables which are appended. They were taken from cases of typhoid fever; 8 from one, and 7 from another; any inconstaney or uniformity of action being more obvious from several consecutive observations on the same person than from 15 separate persons.

They shew no change in 2.

Decrease in 5; from one ¼ degree to 1½ degrees; beginning in from 15 minutes to one hour after administration of medicine, and lasting an hour to 1 hour and 15 minutes.

Decrease followed by an increase in 3.

Increase in 7 (all in the one case, H. C.'s), from ½ a degree to 1½ degrees; beginning in from 15 minutes to ¾ of an hour after medicine; lasting from forty-five minutes to one hour and fifteen minutes; and gravescent in three. After the decline of increase, heat lower than before chloral was taken in 2.

No instance of increase, decrease and a second increase on the one day. The seven instances of increase were on seven successive days. In a case of the same disease where no chloral was given, the heat on seven successive days stood at the corresponding time at 101½, 102, 101½, 100½, 101½, 99½, 102½.

To shew the relation of the heat to the pulse and respirations, their rate is also recorded on the same line in the table.

From these additional observations it appears that after chloral, increase of heat was generally accompanied by increase of pulse and breathing, and decrease of heat by their decrease.

Several exceptions to this rule were noted: 1. Increase of heat attended with higher pulse, and fewer respirations. 2. The same attended with a rise, a fall and a rise again in the respirations. 3. Increase of heat with marked fall in the pulse, respiration slower, and either quicker at first or not so.

This last observation also noted when heat unchanged.

When heat was the same after as before chloral, pulse and respiration have been found much more frequent than at first, but subsequently they fell below what they then were.

The heat remaining the same, the pulse and respiration which had been as 98:20, in half an hour after became as 92:44.

The LOSS OF normal RATIO between the PULSE and RESPIRATIONS was detected, also in other cases under my charge.

For example: in one of Phthisis where there was extensive softening and excavation, before Chloral, pulse 110, respirations 40; an hour afterwards, pulse 116, respirations 54. Mr. Webb, who watched the effect, was so much struck with the anomaly, that to assure himself he says: "I took particular notice of this increase in the number of respirations; counted them three times."

A remarkable lowering in their rate was also observed in a case of tertiary syphilis where ℈ii chloral hydrate were given, from 26, before its administration, they were reduced to 16 in the minute; to the pulse their ratio had been as 1:3, it was changed to 1:5, and nearly 1:6. Another time ʒ ss was given to the same patient, and the same reduction in the respirations followed, but as they fell the pulse rose. Before chloral the pulse was 66, respirations 28; one hour and 15 minutes after, they were 76 and 17 respectively. During this time he had been awake, but afterward he began to sleep, and they gradually returned to what they were at first.

I may here observe that the ACTION of chloral UPON THE PULSE (as ascertained by the Sphygmograph) is to diminish arterial tension, rendering its quality softer and more regular.

After large single doses BAD EFFECTS are not uncommon. Dr. Reynolds narrates a case where very serious symptoms were induced by "45 to 50 grains" in a middle-aged lady who had previously taken ℈ss, and 15 grains with benefit. The symptoms came on in an hour, and were mainly those of extreme prostration, an intolerable sense of sinking, gasping, confusion of thought, and weak, irregular, intermitting pulse. Relief ensued after the exhibition of albumen, stimulants, and exposure to fresh air, but the symptoms came back with increased severity in about an hour, while the mind wandered. In a notice in the *British Medical Journal*, April 30 1870, it is said 7 out of 50 to whom chloral was given, were greatly excited, four wildly, delirious, and 12 had more or less headache. These occurrences seldom take place after less than a ʒ ss or ʒ j, dose. When delirium supervenes it lasts about two hours. I met with one striking example of this accident where the dose was moderate.

W. G. W., in advanced Phthisis, just getting over a copious hæmoptysis, had slept hardly any for three nights. At 3 p.m., Mr. Webb, by my direction, gave him ℈j of chloral hydrate, thirty minutes afterwards he felt drowsy, in fifteen more he went to sleep. He slept thirty-five minutes restlessly, "seemed like one in a nightmare." When he woke, he was (to

use the words of the report) "very much excited and delirious, fancies there is a broken up train of cars in the ward, points over to the wreck of a locomotive and says many people have been killed, among them his wife!" Half an hour after he was "still quite excited and positive in his delusions." From then, 5 p.m., till 3 o'clock, next morning, he was more or less excited and restless. Delirium after chloral is more likely to take place when the latter has been given in insufficient doses. It is also likely to show itself when the patient is awakened suddenly and not allowed to have his sleep out.

In none of the cases under my observation could any ODOUR OF CHLOROFORM be detected IN THE BREATH. This fact is against the assertion of some who say such an odour can be recognized. When first brought into notice, chloral was thought to act by becoming changed, in the blood, into chloroform, and the effects were referred to the latter. Liebrich and Richardson, from experiments on frogs, rabbbits, dogs, pigeons and even human beings, inferred that the blood decomposes chloral, and chloroform is eliminated. The production of chloroform from chloral is easily effected when it is left in vessels in contact with caustic alkalies—and with bicarbonate of soda, when the temperature reaches over 70°. Dr. Gramg thinks, however, it is probable it does not occur during life, while blood is in circulation, not merely on account of the control of vital force, but, also because the alkalinity of the blood is chiefly due to basic phosphate of soda. This fluid, however, contains some bicarbonate of the same base, and at the temperature of normal animal heat, the conditions are present for allowing the change into chloroform. Personne affirms it really occurs, but the odour cannot be detected, though chloroform may be recognized by the usual tests for finding it in the blood. His view is deeper than any former one taken. He says chloral, after reachingthe blood, is changed into formic acid and chloroform; which again is ultimately converted into chloride of sodium, and formiate of sodium, under which state it is ultimately eliminated; these are got rid of by the kidneys, and may be discovered in the urine.

Out of the foregoing, a question naturally arises, and it is this: Is there any CORRESPONDENCE between the effects of CHLORAL and CHLOROFORM except as sleep produces. Can one be substituted for the other as an anæsthetic? These were points to which I also gave some attention.

The first point to test was whether chloral would intensify the effects of chloroform. It has been said "before operations, a dose, if given, would render the patient more amenable to chloroform and make the effects of the latter more permanent; the patient sleeping for hours afterwards." This statement, as you will see, was not borne out by the

following cases, and the effect in them was what was witnessed in others.

F.—— M.——, æt. 6 years,—admitted for club foot, was given gr. xv Chloral Hydr., before I commenced tenotomy. It caused neither sleep nor any other perceptible change. Half-an-hour subsequently, ʒ iiss. chloroform were administered by inhalation and acted as if no chloral had been taken. Three tendons were divided. The somnolent action was not more lengthened than usual after chloroform in children. She woke up quite bright and without any unpleasant after result.

A.—— M.——, came into hospital with anchy'osis, of the knee. Before excising the joint I wished anæsthesia to be induced to see whether the union was really bony or false. ℈ij chloral were exhibited at 25 minutes past 10 a. m., September 10, 1870. At 11, no sleep had supervened. It was thought he was beginning to be drowsy. He was then removed to the operating theatre and put under chloroform. ʒ ij were succeeded by the usual narcosis. It was not preceeded by excitement nor special deviation. On trying to move the joint he cried out several times and more chloroform was given. Chloral did not appear to modify in any way the action of the latter. On the 19th, when excision was performed, chloroform was given without chloral, and the result (as appears from notes taken by Messrs. Stark and Mitchell) was as on the former trial when the two were given.

So far from suspending feeling in the nerves of common sensibility, chloral, when administered to animals, was found by Demarquay to be followed by a condition of exquisite HYPERÆSTHASIA." In one of my cases the skin was very sensitive two hours after ʒ ss. of the medicine had been taken. Mr. Webb in his report, remarks, "When I put my hand on his pulse he drew his hand away as if I had touched him with a red hot coal." In another instance the sensibility of the surface of the abdomen seemed remarkably increased. But with these exceptions no hyperæsthesia was noted by the other patients to whom chloral was exhibited. When used by hypodermic injection it is also apt to be followed by a state of hyperæsthesia in the part.

Another point of difference between the actions of chloral and chloroform is, that, after chloral, REFLEX ACTION is often HEIGHTENED, and when not so, is nearly, if not quite, unimpaired; but after the latter agent reflex action is suspended.

Again, so far from acting like chloroform, it has been said to act against it, and to give rise to EXCITEMENT which lasted as long as the inhalation continued. I think I have seen something of this, but never to any very appreciable extent, and perhaps it was not more than might have been after chloroform alone.

Once more: when given after chloroform to those (especially very young subjects) who remained very agitated, it is alleged it has caused peaceful sleep for from 5 to 11 hours.

Lastly:—upon this question of similarity of operation, it has been affirmed, that, the of SAME ORDER of successive PARALYSATION of the various nerve centres occurs after both agents.

The ANODYNE power of chloral properly falls in with its anæsthetic ability; let us then see if it can allay pain when it does not induce sleep. I tried it in some cases of acute rheumatism ℈ss. three times a day was given. The patients slept much better and longer. Upon wakening, however, the pains were felt with their former severity. The remedy had no influence over the course of the disease. And if we are to concur with the advocates of mint water we may ask what other would be more likely to cut it short? If the patient gets the benefit of perfect rest a comfortable bed, genial heat, an equable atmosphere, suitable diet, &c.; in a word, if he is placed under circumstances the opposite to those under which he has been previously to taking sick, what other palliative would give him more comfort than chloral? As an anodyne in dysentery, I found it mitigated the tormina and tenesmus, but neither in this affection, nor in diarrhœa, where I also used it, did it seem to exert any permanently repressing effect over the discharges.

In other painful diseases, however, a much better account has been given of its efficiency. Dr. S. Walker thinks highly of it in cardialgia with excessive secretion of gastric juice, and in subduing sympathetic palpitation of dyspepsia. Mr. Morgan prescribes it for relief of the severe suffering from burns, ulcerated nodes, &c. Dr. Brady has witnessed the happiest effects from it after the failure of morphia and atropia in painful disorders of the bladder, ovaries, &c. And Mr. Cooke reports the benefits it yields in cancer. He gave ℈ss. with hydrocyanic acid M v. 3 times a day. His words are "excellent, restores comfort, appetite, &c."

I have used chloral as an HYPNOTIC in delirium tremens, phthisis, epilepsy and ague.

In delirium tremens it has been pronounced to be almost a curative agent. Dr. Balfour has published six cases illustrating the rapidly beneficial results that have succeeded it in doses from ʒ ss to gr. xlv; an amount that may be given every half-hour for three or four times. My experience inclines me to regard it favorably. It seemed to me to be useful primarily as a stimulant. I have been told it acted something like "a hair of the dog" that caused the bite. It has agreed well, even where there had been violent excitement or delirium; probably because these symptoms were due to nervous debility, and not to over-power as

some suppose. After its first effect, sleep supervenes, where the remedy succeeds, and afterwards the patient often wakes up quite rational.

In phthisis it is useful as a calmative. Dr. Bennett has written strongly in its praise and finds it useful "to induce sleep, relieve cough, and quiet irritation." The advantage over other soothing agents, already pointed out, seem to entitle it to the preference. I think it is contra indicated where there is unusual congestion of the lung tissue, the seat of tubercule, or hæmoptysis, as it might increase them. The lowering of respiration it causes seems to suggest caution in its employment in such cases.

In epilepsy I found it capable of checking the paroxysms. There was one case in particular that shewed the marked control chloral is able to exert over the recurrence of the paroxysms. From some notes of the history by Mr. J. H. Mathewson, it appears from 28th August to 3rd September following, the patient, J. McK., æt. 17, had 4 or 5 fits each night. On 3rd September he had 7, on the 4th 6, on the 5th 5. During this time he had been taking a mixture of iodide of ammonium and potassium with bromid potassium. On 6th he took ℈ij chloral hydr. at 10 p.m., a little before the expected time of the first seizure. He fell asleep almost immediately after, slept soundly all night, and had no fit. 7th.—No chloral, and he had 8 fits; 5 as severe as any he ever had, and 3 slight. 8th.—Given chloral. Before it was taken he had 2 fits, but none afterwards. From then to the 18th he had chloral each night, and no fits. The next 4 nights, no chloral, no fits. On 22nd 25th and 28th.—Had chloral each night. For twenty days he had escaped a seizure, but on the night of the 29th, he had two paroxysms, Chloral was again given. He had subsequent returns, but I cannot give further particulars as my term of Hospital attendance expired on 1st October. At the same time chloral was given, the patient took arg. nit. & gr $\frac{1}{3}$, ter in die, which was steadily continued for for over three weeks. Puerperal eclampsia is a more likely case for the success of chloral than confirmed epilepsy, as the above, where the most to be expected was the patient would be shielded from his dreaded attack, only while under the narcosis of the remedy. In puerperal eclampsia where it was exhibited, "the convulsions were checked speedily after chloroform inhalation and other measures had failed."

Towards the end of my quarter, a patient with ague was admitted, and, wishing to see if chloral would have any influence over its periodicity, I directed it to be given. As patients had been cheated out of their paroxysms by moving on the hands of a clock,—by a hard gallop, &c.,—it was now to be seen whether they could be equally so by sleep. Nor,

after all, was the remedy so far fetched, for during the Peninsula war, a common practice was to administer opium and ether to the affected soldiers, not as a soporific, it is true, but as a strong stimulant antispasmodic.

G. D., tertian intermittent, cold stage began about 8 a.m. 22nd September.—The day of fever should have com', ℈ij. chloral hydr. given at 7.45 a.m.; fell asleep and continued so for about two hours; 24th—Repeated, fell asleep fifteen minutes and slept soundly for an hour. 26th.— Repeated chloral as before. 28th.—No chloral. 30th.—Has hitherto had no attack; has escaped four paroxysms. But this morning he had a seizure about the usual time. It was, however, mild; cold stage slight, not much fever after, and nosweating. I now gave over the case to my successor, Dr. Fenwick, who, I was told, put him subsequently upon quinine, under which the patient sufficiently recovered to leave the Hospital. Fortunately for chloral, if it failed, it was no wonder and it failed in good company. No wonder, for the man had had the disease off and on during twelve months; the longest interval he had been free from it was two months, the recurrences often ensued in a week or two; he had marked paludal cachexia, deranged innervation, and enlargement of the spleen. If chloral failed so had everything else that was tried before, and in the company was quinine, which he had freely taken. And I have no doubt, till his blood, nervous system and spleen are first rectified, no remedy will be more than temporary in its benefits. How far chloral may answer in ague, in recent and uncomplicated cases remains to be seen. In these I have hitherto had no opportunity of giving it a trial.

In asthma, chloral will yield relief to the urgent distress. Among the notes I took is the case of B. H., æt. 45, admitted 9th August, 1870, with chronic bronchial catarrh attended with pseudo-asthma. After a trial of cannabis, lobelia, prussic acid, &c., and subcutaneous injections of liq. opii. sed. which afforded more or less relief, but only for a time, she was put upon chloral. She was kept upon it longer than the others, because it seemed the most useful; the cough became less often, breathing more easy, rhoncus and sibillus, which before were heard, while standing about her bed, could only be heard by the ear near the chest and over less extensive space, and she continued for a week at a time without a paroxysm of dyspnœa; she had no other medicine except a sharp liniment to the chest, and an occasional aperient. She was still in hospital when I left.

By others chloral has also been used in tetanus, chorea, nervous affections, insanity, fevers and surgical cases.

In tetanus ʒ ss. has been given every four or five hours. Recoveries after it have been recorded, and so also have deaths. It subdues the spasms while its effects last causes extreme muscular relaxation, and leads to sleep.

In chorea small doses repeated during the day for one, two or more weeks are said to afford marked benefit.

In nervous affections generally it is favourably spoken of.

In acute mania it has been found successful as a safe hypnotic, ℈ij. to ʒj. are required for the purpose. It is represented as not having failed in 1 per cent of the cases. In puerperal mania it has also been resorted to advantageously. And in the paralysis of the insane it is very serviceable where the patients are destructive and violent.

In fevers it has been selected when the patient is wakeful and suffers from want of sleep. In re-instating "tired nature's sweet restorer," it serves greatly to maintain the strength of the patient, and to enable him better to withstand the violence of the disorder, so that fatigue and exhaustion are much less likely to be extreme, especially in delicate constitutions.

In surgical cases it has been extensively employed in Edinburgh, particularly after severe accidents and capital operations, the object being not merely to afford sleep, but to give ease and soothe irritation.

And, lastly, it has also been prescribed in protracted labour from rigid os uteri.

And, lastly, chloral has been used as an ANTIDOTE. Dr. J. H. Bennett records several experiments which serve to demonstrate that, after a fatal dose of calabar bean had been administered to a rabbit, the exhibition of chloral appeared to prolong life, though death ultimately supervened. And Mr. Groves narrates a case of poisoning by strychnia in a dog, where about an hour after it had been swallowed, chloral was employed. Two doses were given and the animal recovered.

ADMINISTRATION.—Chloral should be given in solution. Owing to its unpleasant flavour and pungency various agents have been advised in combination, *e. g.*, syrup of tolu and aq. menth pip. (Squires); a few drops of chloroform or spt. menth. pip. (Ogle); Glycerine answers very well. I have often ordered it with mucilag acaciæ.

The doses I have mentioned in which chloral hydr. is to be prescribed in different cases refer of course to the substance in its solid state. Preparations of it such as the syrup made by Ferris & Co., of Bristol, or others, when selected, must be apportioned so that each dose will contain an equivalent quantity of chloral to what would be required if the latter were dispensed in the crude state. I mention this as a mistake, apt to

be made, is to prescribe the syrup in doses in which chloral in substance is ordered to be given.

When chloral was first introduced it was sold at a very high price. A year ago last fall, in England, 12s. were exacted for an ounce. The price, however, soon fell. Last summer the same quantity could be purchased there for 1s. 6d. It is imported into Montreal direct from Berlin, and sold wholesale to druggists in amounts of 28lbs. each, at the rate of $3.25 or $3.50 per lb. When it could only be obtained retail at 50 cts. per oz., I procured for our Hospital a supply at half this price or at the rate of $4 per lb.

Observations made upon the action of Chloral Hydrate in Typhoid Fever under Dr. Wright.
By W. G. Ross.

I. CASE OF HENRY COOPER.

Sept.	Time.	Temp.	Pulse.	Resp.	Remarks.
	P.M.				
10th.	5.30	104	96	28	At the time the draught was given.
	5.40	.....	.....	.....	Became very drowsy.
	6.00	104	106	31	Was sleeping soundly.
	8.00	.....	86	26	Sleeping: evening exacerbation over.
13th.	5.30	102½	92	31	Burning sensation after the draught.
	5.45	103	98	34	Went to sleep during the examination.
	6.00	103	98	31	Sleeping quietly.
	7.00	104	99	32	Sleeping quietly: awoke at 10.00 p.m.
14th.	5 30	103	94	32	Was drowsy during the last three examinations but did not sleep and was restless during the night.
	5.45	103¼	98	32	
	6.00	104	98	34	
	6.30	103½	98	36	
	7.00	102½	88	30	Sweating: evening exacerbation over.
16th.	5.45	102	90	30	
	6.00	102	100	32	Went to sleep during the examination.
	6.30	103	92	26	Sleeping.
	7.00	103	104	26	Sleeping.
18th.	6.00	103	96	26	
	6.15	103¼	92	30	Sleeping quietly.
	6.30	103	96	26	Still asleep.
	7.00	101½	92	26	Sleeping: evening exacerbation over.
19th.	5.30	101½	92	22	
	5.45	101½	92	24	Went to sleep during the examination.
	6 00	102	92	26	Sleeping quietly.
	7.00	103	84	20	Still asleep.
21st.	5.30	99½	85	20	
	5 45	100	88	20	Was sleeping lightly during these two examinations, as he awoke while they were being made and went to sleep immediately afterwards.
	6.00	100	86	18	
	....	.....	.....	.....	
	....	.....	.....	.....	
	7.00	99	80	18	Sleeping quietly: sweating profusely: evening exacerbation over.
22nd.	5.45	99	86	19	
	6.00	100	82	22	Feels drowsy.
	6.15	100¼	80	16	Went to sleep a few minutes after this examination and slept well during the night.

The fever gradually declined from the commencement of the examinations. The pupils were dilated for a few days about the 10th, but were neither then nor afterwards affected by the Chloral. The patient always complained of a burning sensation in the throat after taking the draught, but was so stupid that any alteration in the sensations could not be made out: he could not even tell at what time he awoke. Twenty grains dissolved in an ounce of water were given at each experiment. The first line of figures denotes the observations made just previous to giving the Chloral; and the remarks are the appearances noted at the time on the line of which they stand.

II. CASE OF GEORGE MITCHELL.

Sept.	Time.	Temp.	Pulse.	Resp.	Remarks.
	P.M.				
22nd.	6.00	103¾	94	19	Complained of burning in the throat after the Chloral.
	6.15	103½	92	24	Wandering in his mind during sleep, was awoke by the examination but went to sleep again during it.
	6.30	103½	100	24	Woke up at this time and complained of great dryness of the tongue and throat.
23rd.	5.45	103	100	20	
	6.15	102½	90	30	Sleeping uneasily with much starting. The respiration was jerking and irregular.
	6.45	103	86	36	Groaning and turning about during sleep. The respiration more jerking in character than at 6.15. Surface moist, woke up very thirsty, pupil not dilated.
25th.	5.30	103½	98	22	
	5 45	103½	98	20	Drowsy and went to sleep during the examination.
	6.15	103½	92	44	Groaning in his sleep. Respiration jerking and irregular, much like that of a child labouring under acute Pleurisy.
26th.	5.45	103	112	22	
	6.00	103½	104	18	Quite awake and feels none of the effects of the drug.
	6.15	103	96	36	Sleeping quietly and breathing softly although so quickly
	7.00	103	84	34	Sleeping quietly: pupil not dilated.
27th.	5.45	104	100	22	
	6.00	103¾	100	21	Sleeping lightly, as he awoke and went to sleep again during examination.
	6.15	103½	102	34	Sleeping and breathing lightly and quietly.
	7.00	104	112	30	Asleep, moaning and talking.
28th.	5.30	104	98	24	
	5.45	103¾	98	26	Awake, does not feel drowsy, pupils normal.
	6.00	103½	92	27	Awake but feels drowsy.
	7.00	104	106	32	Moving about, groaning, and muttering during sleep which is quite sound.
29th.	5.30	104	104	27	
	5.45	103¾	94	24	Is not sleeping but feels drowsy.
	6.00	103½	92	34	Sleeping lightly and quietly.
	7.00	104	98	36	Sleeping quietly and soundly, sweating.

The observations have been made at the height of the fever. The pupils were not dilated by the disease or the Chloral. The patient exhibited great aversion to the drug after its first administration, he said it burnt like whiskey, but did not at any time complain of sensation, similar to those produced by that stimulant, he used to speak familiarly of the draught, as "you are bringing that whiskey again to-night." It frequently caused slight eructations, there was at no time marked hyperæsthesia. He generally awoke about 3 o'clock and was very restless until day-light. The first line denotes the observations made just previous to giving the Chloral (twenty grains to an ounce of water.) and the remarks are stated on the line opposite the time to which they stand.

Case of Epithelioma of the Tongue. Removal: subsequent return. By W. CANNIFF, M.D., M.R.C.S., ENG., Professor of Surgery, Victoria Medical School, Toronto; President of the Medical Section—Canadian Institute; late Vice-President Canadian Medical Association; Corresponding member of the Gynæcological Society, Boston.

John B, aged 42, a Scotchman, was admitted into the Toronto General Hospital on the 17th December, 1869, with Epithelioma of the tongue. The account he gave was, that about six months previous he noticed a small lump upon the right side of his tongue, about midway between the tip and the root. The tumour gradually enlarged and eventually ulcerated. He then applied to a druggist, who repeatedly applied caustic to the ulcer, which had the effect of aggravating its character. For some time past he had been under the care of a medical man in Toronto; but

the ulcer had steadily increased. He admits that for many years he was in the habit of using almost continually during his working hours, a short lay pipe. He is not aware that any member of his family was ever affected with cancerous disease. Upon examination, a large ulcer with hard inverted edges and with cauliflower excrescence was found involving the right side of the organ, from near the tip to the root, and extending in the middle to the opposite side. He is a great sufferer, the pain being excruciating when he swallows.

At a consultation of the Hospital staff, it was decided to remove the tongue. Consequently, on the 8th of January, 1870, the operation was performed. I was kindly and efficiently assisted by Drs. Beaumont, Hodder, Richardson and Geikie. A large number of the profession of Toronto was present. The mode of procedure adopted was to make an incision in the median line beneath the chin from the symphysis nearly to the hyoid bone, down to the floor of the mouth. Then, the *ecraseur* having been prepared, the chain was introduced doubled, by means of a needle and ligature, beside the *femur*. A strong linen ligature was then passed through the tongue well back, by which the organ could be drawn forward and slightly upward. The chain being duly passed back over the tongue to the root, especially on the right side, so as to include the diseased mass, the instrument was set to work. Gradually the enclosed structure was strangulated, and finally severed. But little hemorrhage took place, which was readily controlled by pieces of ice placed in the mouth. The constitutional disturbance was very slight. Fluid diet of beef tea and milk, with a limited amount of stimulant, was regularly administered. The day following, he was for a while unable to swallow, but this difficulty soon ceased. The patient's recovery proceeded with no untoward event. After a layer of slough had been thrown off, healing by granulation rapidly followed. By the 27th January there was only a point unhealed. On the 11th of February the patient was discharged well. But upon the mucous membrane immediately anterior to the right anterior pillar of the fauces appeared a degree of induration not very assuring. In every other respect he was in excellent health, and could so far utter words as to made himself distinctly understood. He then went to the country and was not seen for a number of months.

Upon the 14th December, 1870, he was again admitted into the hospital. He stated that for upwards of seven months he continued perfectly well; he then found a swelling in the floor of his mouth on the right side, (but at a place quite removed from that where had been noticed when he left hospital, a suspicious looking condition of the membrane.) After a few days the swelling resulted in the opening of an abscess beneath the

chin, when the swelling in the mouth disappeared. However, almost immediately afterward a tumour began to form upon the floor of the mouth on the *left* side, which has continued steadily to grow. It was found upon examination, that at the present time there is not only this tumour forming within the mouth, but that the whole of the space between the sides of the lower jaw is thickened and hardened, while there is an ulcer in the median line. It is plain that the disease is extending. From the notice of the present morbid growth it is of course impossible to offer any hope to the patient. He remained an inmate of the hospital until the 29th February. By this time the growth had much extended, so that the mouth is nearly filled, and below a prominent tumour exists which seems to be incorporated with the bone. He experiences a good deal of difficulty in swallowing, and occasionally when lying down in breathing. In view of a probably early fatal termination, he determined to go home.

Although the case has finally resulted unfavorably, it must be remembered that before the removal of the tongue, he suffered very much pain. Afterward he enjoyed months of perfect health, and when the disease did return the pain did not, so that he now enjoys comparative comfort.

Fatal case of Measles. By Dr. Sheriff, Huntingdon, P.Q.

C. S., a strong healthy young man, aged 27, sometimes engaged working a farm, at other times driving a stage between Huntingdon and Caughnawaga, of which his father is proprietor. The measles broke out in their family about the 6th of February, and by the 16th five of them were sick, and measles well developed. On the 10th Edward began to complain of the usual premonitary symptoms, but he continued his work, and on the 18th worked all day at a bee, hauling wood; on the 19th he drove about all day, and to a late hour, notwithstanding my advice to keep quiet. On the 20th he continued working, but in the evening he sent for some Podophylin pills and I sent him three, each ¼ gr. and 1 gr ex. hyosciamus, which next day operated freely. On the 21st he went out a little, and in the evening the measles had made their appearance

February 22nd.—He remained in bed; body covered with eruption; pulse only 72; had no great cough, I gave him liquor acet. ammon and spirit, and the pill every two hours.

February 23rd.—Symptoms the same as yesterday, every one favourable; had no headache; had diarrhœa, but ceased spontaneously.

February 24th.—Called at the house at a very early hour, as I was leaving home to attend a midwifery case; did not see him as the family were all in bed, but was told all were doing well. At 10 p.m. the same evening was asked to see him, as he had not been so well since drinking cider; was told that he continued well all day until near night, when having taken a dislike to the drinks he was using he sent a brother for a bottle of cider; it was bottled, and had been kept in a cold cellar, and before drinking it he asked it to be left out of doors for a while to make it still cooler. He then drank, as near as I can make out, half a pint. Soon afterwards he complained of feeling sick, and wished he had not drank it. He became nervous and restless. It was 10 o'clock when I saw him; his head was hot, but his pulse was still the same, about 72 per minute; skin moist; was restless and uneasy; bowels had been opened that day; ordered ℥ j. bromid. potass. every six hours.

February 25th.—Saw him before 8 a.m.; had taken only one dose of the bromide; has slept none; was in a frightful nervous state all night, wandering about and occupying another bed; makes no complaint of pain; pulse still 72, and skin moist; measles have nearly disappeared, can see their marks; gave 3 or 4 grs. of calomel and pulv. act. of Rhydrat chloral ℥ jii. syrup ℥ j. aquæ ℥ jii. a tablespoonful to be given every two hours until sleep was induced.

February 26th.—Owing to professional calls to various places, and more particularly to a fatal accident of an axe being driven up to the eye into the first intercostal space, causing great hemorrhage and wound of the lung, I did not see my patient Edward until 10 a.m. It appears that he remained in a stupid state all day, taking little notice and refusing all medicines and food; he had not taken a drop of the chloral solution. About 2 a.m., of the 26th, his nurse remembered that he had not urinated since Friday. My confrere, Dr. Lamare, was sent for, and used the catheter and drew off over a quart; he returned about 8 a.m. and gave him a calomel powder and some diuretic mixture, but of which he took not a drop. Soon after my arrival I cupped him freely from the nape of the neck, and gave him an enema of senna, salts, oil and croten oil, which came away in an hour or two. With Dr. Lamare's consent, I had ordered the following prescription: ℞ oleum crotuis gtt. ix. calomel grs. x. fl. fil. xi. one every three hours until they operate. They operated freely after taking four, which were administered with great difficulty; the stools were passed involuntarily. He refused to swallow anything although spoonful would occasionally go down. He kept fluids in his mouth for some time and then rejected them with force; he never spoke any connected words. After cupping him I tried him a long time to make water either

into a bottle or chamber, but could not succeed. At 7 p.m., I used the catheter, and drew off a little over a pint of an orange colour: I expected to find it albuminous but it was not. We tried to administer liq. acet. amonia, and spirit nit., but could scarcely get him to swallow anything. I cupped him again freely, and applied mustard poultices to his back.

February 27th.—Saw him at 7 p.m., had been attended all night by a medical student; pulse about 80; pupils contracted; still unconscious and moves his lower extremities very little, used catheter same as last night; had began giving nourishing enemas as he would swallow nothing. Dr. Anderson of Durham, saw him at noon, but made no change in treatment. More epispastics were applied to back and epigastrum; still does not move lower extremeties, but uses the upper frequently, throwing them over his head; used catheter at 7 p.m.; urine scanty and like dirty water; in the evening pupils not so contracted; pulse 80; skin moist.

February 28th. 7 a.m.—Used catheter; urine not so dark as the last; pulse variable from 100 to 116, at ten shaved head and applied a fly blister and mustard to epigastrum. Having to visit some patients at a distance, I left him a little after noon: all symptoms unfavourable; pulse 118; respirations 40; hands cold and bedewed with sweat: purple spots on forehead; pupils are now natural, contract and expand by the application and withdrawal of light; seems to feel the blisters. Returned at 8 p.m.; was just dying and expired in fifteen minutes. I, as well as Dr. Cameron, examined the lungs this forenoon, and found the murmur natural wherever we examined. The first bad symptoms began almost immediately after drinking the cider. This I have examined and find it very acid, but that the acid is malic as it gives no precipitate with lime water. I have also distilled four ounces, from which I have obtained about three drachms of alcohol. I considered that the eruption had been nearly long enough out. It was very vivid on Wednesday and Thursday, and it began to be plainly visible on Tuesday.

Case of Early Menstruation. By DR. ROBILLARD, Ottawa, Ontario.

If you think the following communication worth the attention of your readers, I have no objection to your giving it publicity by inserting it in your valuable journal. The case in question, though not certainly the most extraordinary on record, still we may find it sufficiently out of the usual order of things to find some interest in it.

Being called on some time since to attend a young girl of fifteen suffering from menorrhagia, I was shown a younger girl by two years, who, as the mother said, had been a little woman ever since she was

four years of age. Meaning that she (the girl) had had a menstrual flow since the age of four years. I was assured by the mother that this precocious child, now thirteen years old, of stout frame and very well developed physically, and rather above medium height for her age, had as a general rule enjoyed the best of health; that she had had her menses regularly since she was four years of age, the flow lasting only one day up to the age of eight years, when she had a suppression for three months; after this being regular again. The flow generally lasted two or three days each month.

My subject, as I said before, is a stout, healthy looking girl of a billious sanguine temperament. The mammæ, I remarked, had not attained more development than you would expect in a stout girl of her age.

As I said before, Mr. Editor, this case is interesting, and at all events I do not remember of seeing many cases on record in our Canadian journals, at least with regard to that peculiar function of menstruation.

Extracts from a Thesis on Medicinal Plants of Canada. By A. A. Henderson. (Prize Thesis McGill University, Session 1870.)

In the following pages is a short account of the most authentic information which I have been able to collect respecting some of our plants.

Boletus Laricis Canadensis.—*Class*, Thallophytes. *Order*, Fungi. —This fungus, popularly known throughout the rural districts of Canada as the pine apple, or, the bitter apple, bears a resemblance, in some respects, to the larch algaric of Europe. It is obtained from the white pine, on which species alone it grows. It is situated on the trunk of the tree, and very often at a junction of a branch with the stem. Its perfect growth is not, as sometimes stated, the last act of vitality of the tree; but it grows only on the living tree, coincidently with the life of which its growth ceases. This is proved by the fact that when taken from a *dead* tree, it is found to be dry and devoid of vitality; but, when obtained from a *green* tree, it shews every sign of life.

In considering its actions, we may divide them into three parts, and consider—I. Its local action on the mouth and salivary glands. II. Its action on the stomach. III. Its action on the system in general, as a remedial agent.

Class I.—Its local action on the mouth and salivary glands.—When a small quantity of the powder is slowly masticated, it soon produces a characteristic effect on the mucous membrane of the tongue, gums, fauces, &c., making them feel as if directly acted on by the substance, and seeming to have imparted to them a bitter taste. Soon the salivary glands also

become affected, and discharge a considerably increased amount of saliva. This latter effect is in all probability chiefly due to the action of the drug as a local irritant, and, consequently, as a direct stimulant to the salivary glands. But its effect in this respect is somewhat more than that of an ordinary irritant, as manifested by its results. Its local action on the mouth, as stated by many who have used it, seems to resemble that of nux vomica, to a certain extent.

In consequence of this stimulant action upon the salivary glands, together with its effect upon the nervous system, it has been used with benefit in cases where the patient has wished to overcome the habitual use of tobacco. To produce this effect, a small quantity of the powder must be slowly chewed, allowing the saliva to come freely in contact with the buccal mucous membrane, and in a few minutes a disgust is felt for tobacco smoke, and if a smoke be then taken it produces as much nausea as is experienced after that well-remembered event by all smokers, viz., the first smoke. The remedy must be persevered with, and repeated as often as the desire for smoking returns, till the habit becomes gradually overcome. It must, however, be remembered, that though this is its rule of action, yet, as is the case with all other medicines, there are exceptions; so that, although some persons may be found upon whom the boletus does not produce this effect in such a marked degree as it does upon others, yet it cannot justly be said, on that account, that the drug does not produce this effect at all. I dwell at some length, and cite several cases to prove its effects in this respect, not because I think its action in this respect alone is of any very great importance, but because in order fully to comprehend the effect of any medicine upon the system, its effects upon all the tissues and organs must be known and understood. When once that has been thoroughly accomplished, the reasoning from it as a basis, its application for the cure of the classes of disease for which it is suited, may be easily accomplished. With this object in view, I cite the following cases, hoping that they may aid at arriving at a complete knowledge of our Canadian bitter apple.

Case I.—H. H., aged 41 years, height 5 feet and 7 inches, fair complexion; place of birth, London, England; occupation, merchant. He is a married man; general health good. He stated that he had smoked for twenty-five years, and began, by request, to use the boletus, without having any desire permanently to give up the use of tobacco, but simply to ascertain if it really was capable of producing the disgust for tobacco which it was said to cause. Upon chewing a small quantity of the powder for some time, and swallowing the saliva, he found that an increased flow of saliva was soon produced, and that if much were chewed at once, a

feeling of uneasiness at the stomach, almost amounting to nausea, was produced. After chewing, he felt that although his accustomed time for smoking had arrived, he felt such a disgust for the accustomed stimulus that he had not only no desire to smoke, but had a decided disinclination to do so. The dose of the drug had to be repeated as often as the desire to smoke returned, and always produced the same result. He stated that he doubted not that if sufficiently long continued, and used with a desire to give up the use of tobacco, a permanent cure might be effected. He found, however, that after a number of trials he could chew tobacco first after using it, but found that he had no desire to smoke till he discontinued its use.

He continued the experiment for five days.

Case II.—George C., a married man, aged 48 years; complexion dark, eyes blue; a native of Quebec city, present residence Fitzroy Harbour; occupation, bookkeeper.

He stated that he had smoked heavily for forty years. He had been in the habit of using a tincture prepared from the boletus, occasionally as a stomachic, but till the present instance had never used the powder. He began on July 13th to use the powdered boletus, by request, determined to watch its effects, and, if possible, to continue the use of tobacco. He used it freely, taking from seven to fifteen grains at a time, chewing it slowly so as to allow the saliva, impregnated with the juice of the fungus, to come in contact with every part of the buccal mucous membrane, and then swallowed it. He felt its effects so violently on the salivary glands within twelve hours, that saliva flowed profusely, and he considered it better to diminish the quantity in which he used it. He continued its use for four days, and by that time was so profusely salivated that he thought it better to desist. He felt, in an excessive degree, the effects of the drug on the salivary glands, yet he succeeded in using his pipe during the time of the experiment.

He further stated that he noticed a marked effect on his nervous system while using it, as shewn by the fact, while under its influence, his hand was much steadier than usual while writing. I may here explain that his hand often trembled considerably, frequently to such an extent as to annoy him while writing.

Not wishing to press the experiment further, and feeling quite satisfied with its success so far, he discontinued its use, after having used it for four days.

The author gives two cases more, which, from want of space, we omit.

Class II.—Its effects on the stomach.

In the districts of Canada in which this fungus abounds, it is

frequently used steeped in alcohol, as a stomachic. It is lauded by many who have used it, as being highly serviceable for this purpose. There is one remarkable effect, however, which it produces, especially in persons of sedentary habits, which is, that if a large dose be taken in the morning, a feeling of depression of spirits is felt during the afternoon and evening. But, when taken in moderate doses, this effect is not usually perceptible, and, as is well known in those districts of the Dominion in which it exists, it is used by many, especially during the heat of summer, to improve an impaired appetite, and to keep the stomach in proper tone. It is largely used for this purpose in the Upper Ottawa shanties, by the lumbermen, many of whom look upon this alone as a medicine quite sufficient for nearly all their necessities. Although this opinion carries its virtues farther than they merit, yet the very fact that it is, and has been for many years, considered by numbers to be almost a universal remedy, proves that it must have some health-giving virtue. It surely, then, is our duty to investigate its nature, properties, and actions, and, where it is found an efficient remedy, to adopt it. The pine apple of Canada, like the digitalis of Western Ireland, was used by the populace long ere the profession adopted it; let us hope the similitude will be carried out to the end.

Class III.—Its actions on the system as a remedial agent.

As a remedy in amenorrhœa.—The effect of the bitter apple in this disease has been known in Canada for a number of years, but the information has been confined to rather a limited number. The reason of its being kept in such secresy seems to be due partly to the fact that the older females, who were aware of its virtue, wishing to have the reputation of being skillful, shrouded the matter in mystery, and when consulted with regard to such a case, either gave the medicine themselves without telling the patient what was given, or perhaps communicated the information to the younger female who required to use it, and who, from a natural feeling of delicacy, refrained from mentioning either her illness or her cure to any one. But, be the reason what it may, the facts remain before us: 1st, That it has been successfully used in this complaint; and, 2nd, That although this be the case, yet, because the fact has not been laid satisfactorily before the Medical Faculty of our Universities, it has never been recommended to the profession as having the efficacy which it really possesses. I have also been informed by persons from the west of Scotland, that the bitter apple that is to be found there, and which, as before stated, somewhat resembles our Canadian fungus, is used there also as a remedy for this complaint as well as for other purposes. I have not yet had an opportunity of proving this assertion,

but from circumstances attending the statement, especially of one of them, I feel rather inclined to credit the story.

The use of this fungus has not been restricted to a remedy in cases of disease, but it has been used as a potent abortive agent by young women who have wished to avoid publicity.

The following cases in proof of its efficacy in cases of suppressio mensium have been furnished me, and I can certify as to their accuracy. The names of the parties have, for an obvious reason, not been mentioned here; but I am authorized, if required, to give both name and address to the medical faculty.

The method of its administration is as follows:—Scrape from the fungus a sufficient quantity of powder to make the dose before stated, and take it in water or milk as the patient may prefer. No food should be eaten for several hours before taking it. The proper time for commencing its use is said to be nine days before the time at which the menstrual period should begin, and continue it till it appears. It is thought best to take it just before retiring for the night.

Case I.—Miss ———; residence, Ottawa city. Dark complexion; dark brown hair.

For several years after arriving at maturity she enjoyed good health. Then her health seemed to become impaired, ending in complete menstrual suppression, which continued for *fourteen months*. She seemed at the time to be fast sinking. A friend, who became aware of her condition, then advised her to use the Canadian bitter apple in the powdered form, and in the usual dose. The result was that, in a few weeks,—though she does not at present recollect the exact time,—the menstrual discharge returned, and from that time her health rapidly rose to its usual standard. Since that occurrence, whenever occasion demanded it, she used the boletus powder herself, and recommended it to others, and always with a similar result.

Case II.—Mrs. ———; fair complexion; fair hair; blue eyes. Residence, Ottawa city.

She stated that she became unwell, but continued to go around as usual for some months. At last she was confined to bed and a medical man called in, and for eight weeks she remained under his care, but still total suppression continued. It was then resolved to resort to the *boletus alone*, given in the usual way. The result was that, in nine days after commencing to use it, the catamenia returned. Her strength gradually increased, and she is now in the enjoyment of her usually good health.

(The author gives more cases tending to establish still further the merits of the drug.

Before concluding this part of the subject, however, there is another affection to be mentioned, in which it has been used, it is said, in many instances, with success, by persons in country districts, who wish to treat themselves instead of putting themselves in medical hands; that is, in cases of *gleet*. I have only had it in my power to procure one case in which the person admits having used it for this complaint, for, although many may state that they have heard that it is useful in this affection, yet they generally do not like to allow themselves to be brought forward as proofs of the efficacy of any remedy for it.

Lycopodium.—*Class*—Acrosens. *Order*—Lycopodiacæ.

Use.—In cases of derangement of the heart's action, produced by weakness or irritability of the nervous system, or where it is due to some obstruction of the respiratory organs and the heart's action consequently increased as an attempt of nature to overcome the difficulty, its effect is, in many instances, instantaneous; a feeling of quiet and comfort being soon produced. Lycopodium is here said to act in a manner that justly merits its use, as the heart gradually but decidedly responds to the remedy to a greater or less degree, according to the extent to which the drug is pushed. Respecting its effect in organic disease of the heart, I have not got it in my power to make any decided statements.

Given as a tincture in dose of 2 to 5 m., and repeat when necessary.

The Canadian Mallow.—*Class*—Exogens. *Order*—Malvaceæ.

II. As a means of reducing abnormal muscular contractability.

Cases of this kind are not of unfrequent occurrence in many parts of Canada, among persons exposed to cold and wet. The flexor muscles of the affected limb become contracted and painful, and, as a means of relief, the limb is obliged to be maintained in a semi-flexed position. The strength of the patient soon begins to sink from the effects of constant suffering, and profuse, cold night-sweats set in as a consequence. A few applications of the mallow, if properly prepared, will be found to produce a markedly beneficial effect on all the symptoms. The pain and perspiration diminish as the contractability gradually yields, and in a short time the patient is usually restored to his usual health.

Mode of preparation.—The leaves and stem of the mallow should be boiled in a quantity of water just sufficient to cover them, until they are reduced to a pulp. This is then to be applied to the affected part as hot as the patient can bear it. It is considered best to apply it thus at night, and allow it to remain on till next morning. A few applications in this manner usually suffices to reduce even the most refractory case of this kind.

I need not bring forward any cases in proof of its efficacy in reducing

ordinary swelling, but regarding its effect on muscular contractability I will cite two cases.

Case I.—The first instance in which I saw it used for this purpose was by an Indian. The Indian and his family were passing on their way along the Ottawa River, one autumn, a few years ago. An old man, one of the party, was seized with an attack of the complaint under consideration. The right knee was semiflexed and exceedingly painful. The tendons of the rigid flexor muscles could be felt hard and unyielding. He stated that for some nights previous to the first application of the mallow he had such a profuse cold perspiration that he had to change his underclothes at midnight, and again in the morning. After the lapse f twelve hours from the application of the mallow, a decided diminution had taken place in all the symptoms, and after the expiration of a few days he could use his leg with moderate ease, and then continued his journey.

Case II.—R. J. T. states that he had an attack of this complaint some years ago, and used the mallow as a remedy. He further states that he is willing to certify as to its efficacy in this affection.

In order not to make this thesis too long, I will not state too many cases respecting each plant, but after giving a few proofs of the accuracy of the statemants made, will pass on to another part of the subject.

The author, who was the gold medallist of McGill University, for session 1869–70, concludes his thesis with a few brief remarks on a few other Canadian plants, less useful than the former, as the spikenard, the poplar and the mullein. He expresses the hope to be able to pursue the whole subject of the Canadian materia medica more fully at a future period, and we shall be happy to chronicle the results of his enquiries.—*Eds. Med. Journal.*

MEDICO CHIRURGICAL SOCIETY OF MONTREAL.

MEETING HELD 18TH FEBRUARY, 1871.

Dr. Robert Godfrey, Vice-President, in the chair.

Dr. Trenholme read the following paper on

A CASE OF PROLAPSUS UTERI.

Mr. President and Gentlemen,—The subject of this short paper is the successful treatment of a case of prolapsus uteri, that has just passed from under my care. The patient, as you will see by the following remarks, had been a considerable length of time almost entirely incapacitated from following her household duties, as well as a great sufferer in many ways, by her serious and distressing complaint.

History,—Mrs. D., aged 20 years, native of Canada, is of large size, spare habit, fair complexion, and of general healthy appearance. Has had leucorrhœa, more or less, since her marriage about five years since, which was increased after her first confinement about three and a half years ago, and also aggravated by the addition of bearing down pains of the womb, pains in the small of the back, loins, &c., &c., caused by her refusing to remain in her bed after the third day of her confinement.

This state of things continued with slight variations for another year, when during a severe attack of typhoid fever she had a miscariage. Her convalescence was very protracted, and when once more she was able to move around the house, found, in addition to an increase of the leucorrhœa pains, &c., that the womb, or some kind of tumor, began to make its appearance between her thighs.

This new complication gave her serious inconvenience, in addition to augmenting all her previous troubles; within the last few months the tumour, so she says, has increased considerably in size.

Present Condition,—In addition to the pains, &c., already mentioned she has variable appetite, furred tongue, pains at pit of stomach after eating; constant rumblings and distension of the bowels, flatulance and constipation. Is much troubled with palpitation of the heart and shortness of breath after exertion.

Upon examination, the uterus was found quite prolapsed, and much increased in size and density, specially the cervical portion.

The mucous membrane of the original walls had by long exposure to the atmosphere, and friction of the parts, lost its natural moist velvety character and felt and looked somewhat like true skin. The os uteri was much enlarged, infiltrated or hypertrophied and firm to the touch. About half an inch above the os, the neck was fully two and a half inches in diameter, and through the largest part of the prolapsed organ about four and a half inches. The membrane covering the anterior part of the womb, seemed to be loosely attached, and gave the impression of partia prolapsus of the posterior wall of the bladder, although I discovered nol fluid in connection with it. I regret I omitted to pass the catheter to settle this question.

The os uteri was largely, (and readily admitted the finger some distance) dilated and filled with mucous, having a slight trace of pus, which flowed freely from the canal.

So far as could be seen, there was no ulceration of the os or cervical canal, and the sound passed most readily into the uterine cavity. There was a little tenderness of uterine walls, and the depth of the cavity was five and a half inches.

The uterine secretion was not examined specially, as there seemed to be no particular reason for doing so.

The uterus was easily returned to its natural position in the pelvis, when the perineum contracted well, and did not present that distended flabby aspect that might have been expected after its prolonged distention by such a large body.

The cause of the present hypertrophied and indurated condition of the uterus (the prolapsus being merely a necessary consequence of this hypertrophy) appears to be entirely due to imperfect involution, after the patient's confinement and miscarriage. The uterus has, to all appearance, the congested and indurated enlargement which results more from an atonic, passive state of the parts, rather than from active inflammatory action.

Treatment. The only thing in my judgment calling for treatment is the hypertrophied condition of the uterus; once remove the disease, and then the prolapsus, which is not a disease *per se*, will remedy itself. In this case, as well as in others of a similar nature, I refrained from using the pessary to sustain the womb, although at first I had serious misgivings as to ever seeing the organ retained in the pelvis without one.

With the exception of small doses of pulsatilla to aid in digestion and remove the flatulence, the treatment was local, and adopted with the view of reducing the congested and hypertrophied state of the womb by dissolving, or melting away all the imperfectly formed tissue, and by this means, perhaps, happily restore the organ to something like its normal condition and position.

To effect the purposes I have indicated, the acid nitrate of mercury, prepared by dissolving about 5 grs. calomel in 3 j. strongest nitric acid, was freely applied by means of a piece of cotton fastened to the end of a wood splinter to the cavity of the cervical canal and uterus. After the application, the os was filled with dry carbonate of soda to prevent excoriation from any excess of acid, and the womb was returned to its place.

The patient was directed to wear a perineal bandage, and to lay down as much as possible for a few days, at least, after each consultation.

The application of the caustic was followed, for some hours afterward, by increased pains in the small of the back and loins, and for two or three days by a great increase in the quantity of discharge from the womb.

This treatment was continued throughout at intervals of about eight days, except when the catamenia interfered, when it was delayed for three or four days after she was well. At first the progress toward recovery seemed to

be very slow and unpromising, yet by the 16th December there was a perceptible decrease in the size and density, and the patient had been able for a day or two, now and again to keep the womb from protruding externally. The sound indicated the satisfactory diminution of the depth of cavity by one inch, being now four and a half inches and correspondingly reduced in bulk.

By the end of December the depth of the cavity was still further reduced seven-eighths of an inch, being now $3\frac{5}{8}$ inches; was better able to retain the womb in its place; suffered much less from the bearing down; and although the discharge was very great, was steadily progressing toward recovery.

On the 4th of February, examined the patient for the last time; was obliged to use the speculum, as indeed I had already done on the last four or five consultations; found the os well up in the pelvis, of nearly normal size, density and appearance.

On introducing the sound found the depth of uterus to be $2\frac{1}{2}$ inches.

As the patient feels entirely well, able to attend to her household duties, &c., without inconvenience, she is therefore relieved from further attendance.

Such, gentlemen, is the brief history and treatment of a case that has been of a good deal of interest to me on account of the unexpected and satisfactory results obtained, and that, too, without being obliged to resort to that objectionable instrument, the vaginal pessary.

Dr. F. W. Campbell said the case was an exceedingly interesting one illustrating, as it did, the result of the application of the acid nitrate of mercury, which was the now favorite caustic of Dr. Storer of Boston, He enquired from Dr. Trenholme at what period between the menstrual flow did he apply the acid, and whether the application was made at his own surgery or at the patient's house, and whether he had confined the patient to the recumbent posture for any time afterwards. Dr. Campbell said that Dr. Storer had found that midway between the menstrual periods was the most successful time for its application, and that to prevent any bad consequences, it was well to use the acid at the patient's house, and confine them to the recumbent posture for twenty-four or forty-eight hours. He also enquired as to the amount of pain that followed the application.

Dr. DRAKE remarked that Bennett and others in similar cases, used prucei putty, the potassa fusa or potassa cum calce.

Dr. HINGSTON would enquire whether there had existed any malposition together with the prolapse, and also whether there was simple elongation of the cavity of the uterus or whether enlargement had taken place in all directions. Thinks that the pessary should only be a *dernier resort.*

Dr. HOWARD enquired when Dr. Trenholme first examined the case, and what period had elapsed since her miscarriage?

Dr. TRENHOLME replied that he first saw her at the time mentioned, and that the mis-carriage had occurred two years before.

Dr. HOWARD enquired the distance from the reflexion of the vaginal wall to the mouth of the os.

Dr. TRENHOLME could not give the exact measurement.

Dr. HOWARD said that it had been shown the length of the uterus was at first 5½ inches, and that it was much hypertrophied. This was, from the history, apparently due to deficient involution, or partly to actual outgrowth from other causes productive of such hypertrophy: but this point could not be definitely settled since the case had not been under observation from the time of the mis-carriage to the time of first seeking advice. It was a well known fact that often after confinements the uterus never returns to its normal size. In a woman, therefore, who of necessity stands a good deal, and who has the vagina and perineum much relaxed, from the gravitation of the uterus and posterior wall of the bladder, elongation of the cervix will take place. The treatment adopted in the case under consideration was not new, but was very interesting. It was similar to the old French treatment, which was by means of the actual cautery and powerful caustics. It was interesting to see how the action of strong caustics will cause absorption of the structures of the uterus.

Dr. DRAKE suggested in similar cases the use of sponge tents for the purpose of dilatation, following the plan of Sir James Simpson.

Dr. TRENHOLME explained that, of course, in the use of such a powerful caustic great caution was necessary. He allowed three or four days to elapse after the cessation of the menses before making the application, and then did it at his own office—there was no malposition of the uterus; did not believe that prolapse of the womb ever took place without some degree of hypertrophy of the organ. The acid was applied by means of a pledget of linen, tied on to a tapering piece of wood, and no pain of any moment was complained of. He had in other cases applied iodine, and found intense pain to follow its use, so much so that nothing could induce him to use it again.

Dr. HINGSTON remarked that Dr. Storer, of Boston, never applied the caustic sooner than from fifteen to twenty days after the menstrual period was passed, and has stated that the fatal cases which he has met with in his practice occurred from a too early application of the nitrate, and perhaps from having permitted the patient to walk about afterwards.

Dr. REDDY hardly thought from the method of its preparation that it really was the acid nitrate of mercury which Dr. Trenholme had applied.

Dr. DRAKE also took exception to the method made use of by Dr. Trenholme, in making the preparation he applied to the uterus. He thought with Dr. Reddy that it was hardly the acid nitrate of mercury which he had applied. Calomel was not soluble in nitric acid.

Dr. TRENHOLME was perfectly satisfied that a very large quantity of the calomel was dissolved by the acid.

The chairman having tendered to Dr. Trenholme the thanks of the Society for his interesting paper, the meeting adjourned.

MEETING HELD MARCH 4TH, 1871.

Dr. GEORGE W. CAMPBELL, President, in the chair.

Dr. GODFREY read the following paper on

SPONTANEOUS INVERSION OF THE UTERUS.

MR. PRESIDENT AND GENTLEMEN,—I bring before your notice this evening a case of spontaneous inversion of the uterus, the details of which are as follows:

On Friday, the 22nd February, 1867, I was called on to attend Mrs. W., a strong, healthy, well-developed young woman who was about to be confined of her second child.

On examination I found the presentation natural, the os well dilated, the pains regular and strong. After a couple of hours attendance she was delivered of a healthy living child, and in about fifteen minutes the placenta and cord, both in a normal condition, came away with natural pain and consequently requiring scarcely any traction.

I then applied a bandage moderately tight without any compress. The discharge did not exceed the usual amount. I went into the sitting room, chatting with her husband for about half an hour, and before leaving the house went into her room and wished my patient good night, leaving her quite comfortable, and everything all right.

On my visiting her on the following morning she told me she suffered very severely from after pains during the latter part of the night; she was then suffering, and the discharge was increasing very fast. I gave her three powders containing a grain of acetate of morphia, one-third of a grain in each; one to be taken every three hours until the pain was relieved.

Visited her again at one p.m.; she had just taken the second powder; was no better; her pulse was extremely weak, her face very anæmic, and I began to feel very uneasy for the safety of my patient. At this visit I made a vaginal examination, more for the purpose of ascertaining the amount of clots that might be in that locality than anything else. I did

not feel the uterus, it seemed very high. Visited her again at half-past 9 p.m. the same day; symptoms somewhat better. She was easier; discharge not so profuse. Unpinned and reapplied the bandage and gave the third powder.

Sunday morning on calling I found them in a great consternation. While she was sitting on the chamber a large body, the size of a child's head, passed out of the vagina and was resting on the bed. The nurse supposing it to be another after-birth tried to remove it, but the pain was so severe that Mrs. W. insisted on her waiting until the Doctor called. Her husband ran to my surgery for me, but not finding me he went for Dr. Girdwood, who kindly went with him, and found her on his arrival just as I have described. I arrived in a few second afterwards, and on consultation, we had little difficulty in diagnosing it as a case of complete inversion of the uterus, and decided to put the patient under chloroform and try to reverse it if possible.

We placed the patient on her back with her knees drawn up, bringing her to the edge of the bed, and when she was completely insensible, I grasped the uterus with my right hand (the hand and arm having been previously anointed) and pushed it steadily up into the vagina. I then brought my fingers down without removing my hand, and formed their tips into a cone, pressing them steadily against the centre of the fundust I continued the pressure onward in the direction of the os (which I fel[l] distinctly) until the whole organ was reverted to its normal position.

Her recovery was very tedious. She was not able to leave her bed for nearly six weeks.

Mrs. W. was again confined on the 24th of April, 1868, of a still-born child, one year and sixty-one days after the inversion. The child was full grown and had arrived at the full period: could not account for its being dead born. The placenta came away without any trouble as in the last case. Treated her as I had before, except that I gave her an anodyne to relieve the after-pains before leaving the house.

Again on the 24th day of April, 1869, exactly a period of twelve months after her last confinement, I attended her, when she gave birth to a healthy living child. Both mother and child are alive and well at present.

There are a few points connected with this case which are interesting and worthy of consideration.

In the first place, the probable length of time that had elapsed since inversion had taken place. I am of opinion that when I made the vagina examination the fundus was implicated in the os, which would account for my not having felt it. I consider the amelioration of her symptoms at my evening visit was owing to complete inversion having taken place, and that the inverted uterus remained in the vagina until the following

morning, when it was expelled by the effort of getting on the bed pan. The remarkable ease with which the organ was reverted while under the influence of chloroform is also worthy of consideration, for I find some of the earlier writers on the subject look upon it as a proceeding not often attended with success.

Had I failed in my efforts to reduce the organ, it was my intention to have applied belladonna round the neck: or, had this failed, I should have been inclined to divide the neck nearly through with a bistoury. Both remedies would be, I think, attended with great risk; the first from the large amount of open blood vessels. Consequently, the probable rapid transmission of the belladonna into the system, and the other from the liability of opening into the peritoneal cavity.

There is another symptom in this case which has caused me much thought, and which makes me anticipate with pleasure the remarks I hope to hear from the members of the profession present on the subject. I allude to the alarming prostration which at one time was so great that the patient appeared almost moribund. Most writers call this collapsed state, shock, but I have seen a case where the uterus was ruptured from the fundus to the neck, the child and placenta thrown into the abdominal cavity, and yet the shock was nothing like so great as in this instance. Therefore, I feel disposed to think that the most alarming symptoms were caused by air entering through the open veins, for when complete inversion took place the neck acted as a tight ligature, preventing the ingress of air, and her symptoms began to improve.

Dr. THOMPSON read the following paper on

ACUTE INVERSION OF THE UTERUS

caused from pulling too much on the cord in the removal of the placenta.

I was called up during the night of the 17th December, 1869, to assist in a midwifery case. It appears that Mary M., aged 37, the mother of six children, was taken in labour about ten o'clock a.m., on the 16th, and after natural and easy labour was delivered at half-past twelve, a.m., on the 17th, of a female child. Some little hæmorrhage followed the expulsion of the child, in consequence of which the person in attendance endeavoured to remove the placenta by forcible traction at the cord, about an hour before my arrival. When I entered the room I found the patient in an extremely exhausted condition, evidently labouring from or under some aggravated nervous shock.

Her face and lips were pale and ex-sanguine; there was a cold sweat on the face and forehead; she had just fainted and vomited, and I could detect no pulsation at the wrist. I immediately gave her some brandy

and cold water, and I at once proceeded to ascertain the cause of the untoward symptoms. I found on the bed close to the vulva, in a pool of blood and numerous clots, lay the placenta, still partially adherent to some body within the vagina. On passing my hand into the vagina I found the whole cavity of the pelvis, which was very capacious, occupied by a firm globular tumour, which was pressing forcibly on the perineum; I could detect no uterus above the pubes by my hand being applied over the abdominal parities; but the extremities of my fingers could be felt within the vagina. I at once detached the placenta which was then only adherent to the extent of about two square inches (the entire surface had evidently been forcibly detached,) and then with my fingers flexed I endeavoured to replace the inverted uterus,and after a few minutes continued pressure it began to yield, and at last resumed its normal position; my hand occupying the cavity, and was not withdrawn until expelled by the uterine contraction, so as to ensure the patient against a repetition of the accident, and I also assured myself that the *restoration was complete.*

I removed the adherent placenta in order to diminish the bulk of the inverted fundus, and thus facilitate the reduction.

When the inverted uterus was restored to the natural position or situation, I took every precaution necessary to avoid a recurrence of the accident, or what is more likely, prolapsus of the uterus.

I kept up a continued pressure with my hand over the uterus for about an hour or more, on account of repeated oozings of blood; I administered during the time about half a pint of brandy and some infusion of ergot. She complained of great dizziness and of noises in her ears; but arterial action being established, and all hemorrhage having entirely ceased, a firm pad was applied over the uterus and I left.

The next morning she felt much better, and had a far less anæmic appearance than the night previous.

She complained of great debility and great pain in the head, especially across the brow; free from fever; pulse 68, full volume, very soft and compressible; tongue much improved; has had no sleep. She gradually improved, taking nutritious diet and tonic medicine, and on the 3rd of January she was able to get up, and gradually resumed her household duties.

Dr. G. W. CAMPBELL said a case of inversion had a few months ago been under his care. The patient came from the country, a farmer's wife, and since her last labour, four years previously, had been troubled with profuse menorrhagia, from which she was much reduced in strength and quite anæmic. He examined her at the hotel where she was staying, and passed his fingers round, what he at the time considered a fibrous

polypus protruding from the os uteri and firmly embraced by the cervix. He had met with several cases of uterine polypi within the last few years, such as he believed this to have been, and had generally succeeded in detatching them by enucliation with the finger nail. The patient was admitted into a private ward in the Montreal General Hospital, and with the assistance of Drs. Wright, Ross and Roddick, he proceeded to perform the operation. Having been ætherised, and placed on her left side with the nates close to the edge of the bed, the tumour was grasped by a volsellum, pulled down to the os externum, and a noose of broad tape slipped over it as far as its neck, upon which traction was made, sufficient to expose it in its whole extent; it was pyriform in shape, white in colour, firm in feel, about the size of a small egg, and resembled exactly a fibrous polypus tightly embraced by the os uteri; a probe was passed round the neck of the tumour, to endeavour to discover its pedicle, and to give room, the cervix was divided, first on its anterior, and then on its posterior half, relieving the constriction; on again examining with the probe at the posterior incision, he found it slipped through a small opening, and could be passed upwards to any extent. He at once examined per anum, felt the probe through the coats of the rectum, and discovered the absence of the uterus, and that what he had considered a polypus was really an inverted uterus. Of course, all further operative interference was desisted from, and in a few days the patient went home with instructions to return in three or four months, in order that an attempt might be made to replace the uterus into its normal position. At the appointed time she returned wonderfully improved in health and appearance. She had menstruated regularly and in normal quantity since her former visit, the division of the cervix having apparently produced this result, by relieving the uterine congestion. An attempt was made to replace the inverted uterus, and as much force was used as he deemed prudent, but it failed, and as the patient's health was excellent, and she was perfectly satisfied with her condition, she was advised to return home, and to use mild astringent injections, and the cold sitzbath. This case was instructive, and shewed the necessity of examining per anum before operating upon fibrous uterine tumors; had he resorted to this in the first instance, it would have prevented his erroneous diagnosis, but the symptoms and appearances were so deceptive that he felt perfectly satisfied he had a fibrous polypus to deal with. Upon making special enquiry into the history of the case, the woman stated that her last labour was easy and natural, and that there was a natural delivery of the placenta, but that eight or nine days after her confinement, while reaching for a book, she felt something give way

in her inside; she had no further uncomfortable symptoms at the time, but it was doubless then that the inversion took place; the monthly flow had been profuse since then; the duration of the periods was greatly increased, and the intervals diminished, so that she was flowing more than half her time, but the operation seemed to have restored the function to its normal condition both as to time and quantity.

Dr. GIRDWOOD said that in the temporary absence of Dr. Godfrey, he had been called to the patient and found her exhibiting an appearance of great depression and anxiety. Found, on enquiring, that the labour had been perfectly natural three days previously, and on examining discovered the tumour closely encircled by the os uteri. The nurse informed him that the tumour had appeared just after the patient had been sitting upon a bed pan; thought this should always be avoided after confinement by having recourse to a draw-sheet or some other similar appliance; would remark that the occurrence was really very rare, being said to occur only once in 80,000 cases.

Dr. FRASER said Dr. Parker of New York, an eminent surgeon, had recently excised the whole uterus in mistake for a polypus. So he considered Dr. Campbell very fortunate in discovering his error in diagnosis in time. In Dr. Parker's case, although both the ovaries had been removed, the patient did well. Polypoid tumors were a common cause of inversion. In Dr. Godfrey's case, as in Dr. Campbell's, it was due to a floxcid condition of the fibres of the uterus. He remarked that recently Dr. White of Buffalo, and Dr. Smith of New York, had both effected reduction of the uterus after many years standing, the former after 13 years and the latter after 16 years. In the last mentioned, the result was brought about by means of an air-cushion and the treatment occupied a space of eight days.

Dr. GODFREY said the hemorrhage in his case was not excessive, but the open oozing veins of the interior of the uterus were very plainly seen. It was a novel sight and one not often witnessed.

Dr. FRASER said the late Dr. McCulloch of Montreal removed the uterus, and the patient did well.

Dr. REDDY remarked that in Dublin, the same operation had been performed successfully some ten or eleven times.

Dr. G. W. CAMPBELL mentioned an heroic method of treating this affection, viz., by making an incision into the lower part of the abdomen, through which a sharp probe was introduced so as to perforate the inverted uterus, a button was then placed on this and traction made upwards and the organ was brought to its natural position. The case recovered.

Dr. FENWICK said that in a case related by Dr. J. Gaillard Thomas, after all the usual means had failed an exploratory opening was made into the abdominal cavity, and an instrument like a glove stretcher was introduced to dilate the os; the organ was then reduced by upward pressure though the vagina, and the abdominal wound closed. The case ultimately did will.

Dr. HINGSTON would take exception to the supposition of the entrance of air. He would ask what evidence there was of this having taken place. Thinks the depression must have been from shock, and that if air had entered the veins that phlebitis would have followed.

Dr. GODFREY believed that in turning and some other operations in midwifery the sudden appearance of collapse was sometimes to be explained upon the supposition of the entrance of air into some of the large veins. If the very great collapse in this case was not due to this cause, he was at a loss to explain it. He had had a case of entire rupture of the uterus, and the child thrown into the abdomen, without having anything equal to the shock in this case.

Dr. G. W. CAMPBELL said it was, he believed, impossible for air to have entered the veins.

Dr. REDDY said air could not have been taken in without an immediate effect being observable, and that of a very serious kind. He had a year or two ago, a case of rupture, with but little pain, and the patient died in two hours and forty minutes.

Dr. CRAIK said if Dr. Godfrey was correct in his supposition, why does not air enter, when the placenta comes away in ordinary labour.

Dr. TRENHOLME mentioned a case, where he had thought it advisable to apply tincture of iodine to the interior of the uterus. On its application the shock was so intense, that it would be a long time before he would again venture on its employment. The patient was unable to leave his surgery for two hours.

Dr. FRASER remarked that the danger from the application of pernitrate of ferri was due to its action upon the blood, rendering embolism possible.

Dr. GODFREY said in many cases of turning he had seen very great prostration, without any internal hœmorrhage.

Dr. G. W. CAMPBELL said he had turned in fully fifty cases without the slightest trouble. He had several patients in whose labour he always turned from the difficulty of the head entering the superior strait.

The president (Dr. G. W. Campbell) stated that Dr. Thompson's paper was interesting, as illustrating inversion from another cause than that to which Dr. Godfrey's case was due. He considered the papers

that had been read exceedingly interesting, and that much information had been elicited from their discussion.

The thanks of the society were tendered to Drs. Godfrey and Thompson for their interesting papers.

Dr. HOWARD wished to exhibit a pair of kidneys, which had interested him very much, and had been sent him by Dr. Scott for the purpose of illustrating his lectures upon medicine. They belonged to a man aged 45, of intemperate habits, who had been admitted to hospital early in June last, in a state of marked cachexia, with a bed sore on the sacrum, frost-bitten feet, œdematous lower limbs, but no albumen in the urine. By the middle of July he had so much improved that he was about to leave the institution, when he was seized, for the first time, with an attack resembling asthma, which recurred for two or three consecutive nights. No disease of heart or lungs could be detected.

Dr. Roddick informs me that, towards the end of August, he was sent to attend the man, and found him suffering from cough, paroxysmal dyspnœa, œdema of face and legs; bronchitic râles were audible over the chest, and urine contained about one-tenth its volume of albumen. All these symptoms, except the cough, improved very much in September, but returned in greater degree in October, and ascites was added to anasarca. He was re-admitted to hospital on 20th October. During the short time he survived, he suffered from orthopnœa, general dropsy, noisy respiration, like that produced by laryngeal obstruction, mutism, incoherence, semi-coma, dysphagia, highly albuminous, scanty urine, and twelve hours before death, complete coma.

Dr. Roddick, and the clinical clerk, Mr. R. A. Stephenson, inform me that no tubercles existed in the lungs, nor any traces of syphilis upon the exterior of the cadaver.

The kidneys, as you see, are of unequal size.

The larger weighs barely $4\frac{1}{2}$ ℥; smooth; capsule thin, non-adherent; no granulations nor inequalities upon exterior, nor unequal distribution of the blood upon that surface; neither congested nor anæmic; very natural-looking.

Cut surface:—usual thickness of cortical substance; no visible streakings, nor pale lines indicative of exudation into tubules, nor any opaque specks over the entire section, except over a limited area of about three-fourths of an inch square, in the cortical substance. This diseased area is whiter than the rest, and presents numerous dead-white lines running from the periphery of the organ vertically towards the pyramids, and resembling the appearances observable in the "large white kidney" of pathologists.

The smaller kidney weighs 2 ℥ i ℨ; external surface smooth; a cyst, about the size of a damson plum, occupies its external surface; contents of cyst had nearly all escaped when brought to me, except some chalky-looking pultaceous material which adhered to the lining of the cyst.

Capsule non-adherent and of usual thinness, except over the cyst, to which it is closely united; exterior is of normal appearance in all other respects. On section, relative proportion of cortical and pyramidal substance normal, no wasting of one more than of the other, the organ merely appears small; no visible deposit or streaking on this surface. At one end of the organ, and occupying the cortical substance, is a cyst, filled with transparent serum and of the volume of a green pea.

No thickening of pelvis of either kidney, nor of that portion, about two inches long, of the ureters which has been removed with them.

These specimens have some interesting, and, to me, puzzling peculiarities. What is the nature of the alterations present? Are the kidneys affected with Bright's disease?

Opposed to that view is the great fact that that disease almost invariably—in my limited experience invariably—affects both kidneys at the same time and in about equal degree. In this case one kidney is twice as large and heavy as the other, and the smaller has two cysts in it, while the larger one has only a small patch of exudation in it.

2ndly. These kidneys have not the usual appearances of Bright's disease. Here the *smaller* kidney weighing 2 ℥, wants the thickened adherent capsule, the glandular or nodular exterior, and the atrophied cortical substance of the granular or fibroid kidney—the variety of Bright's disease of which it appears at first sight to be a specimen.

On the other hand, the larger kidney wants the characters of the "large white kidney"—the increase of volume and weight, the anæmia, the augmented thickness of cortical substance, and the lines of exudation into the tubules distributed uniformly throughout the cortical substance. The appreciable alteration in this kidney is confined to a very small area, indeed about three-quarters of an inch square, as already mentioned.

Nor have these kidneys the appearances of lardaceous or amyloid disease. Neither of them has the anæmic, nor the semi-translucent of appearance that disease.

The smaller kidney presents no unevenness nor signs of unequal distribution of the blood upon its external surface as obtain in the contracted stage of amyloid disease.

These kidneys do not exhibit the appearances characteristic calculous of nephritis. No calculi exist either in the substance or in the pelvis of the organs, nor any traces of pyelitis.

Nor do they present the characters of either tubercle or of scrofulous inflammation of the kidney.

I am not familiar with the appearances presented by syphilitic disease of the kidneys, but the alterations in the specimens on the table do not, in my opinion, conform to either circumscribed or diffuse syphilitic disease of those organs described by recent authorities; and no evidence of syphilis existed on the exterior of the cadaver.

It may be that we have in these morbid specimens an interesting and unusual variety of Bright's disease; 1st, in which the morbid process has advanced to a marked degree in one kidney, while the other has suffered very little.

2nd. In which the atrophic process has involved the cortical and pyramidal substance about equally, and in which, notwithstanding the loss of volume and weight, the kidney has preserved its natural smoothness, there being a complete absence of granulations, depressions, and puckerings of its external surface.

3rd. Further peculiarities are the very large cyst containing cretaceous looking material in the small kidney, and the isolated and very defined patch of disease, resembling that seen in "the large white kidney" of pathologists, present in the other one. The pathological specimens were examined by the members of the society with great interest.

Dr. Francis W. Campbell exhibited to the Society a boy nearly four years of age, suffering from caries of the cervical portion of the spinal column. So far as it was possible to ascertain, the disease, he believed, embraced the third, fourth, fifth, and sixth cervical vertebræ. When he first saw and examined the case, he thought that the axis was involved, but upon that point he was now somewhat in doubt. The child was unable to make any lateral motion of the head, which he kept perfectly steady, and somewhat thrown back; the sterno-mastoid muscles were very tense and prominent. The child complained of much pain in the neck; he slept but little, and his appetite was poor; at times he has had very violent attacks of dyspnœa, of several hours duration. There was not any history of a fall, and, as might be seen, the child was of a highly scrofulous diathesis. It was a year since his mother's attention had been directed to his neck, and, although seen by several medical men in New Haven, Connecticut, the disease had not been recognised till his arrival in Montreal. The treatment which he had adopted was keeping the child as much as possible in the recumbent posture, with lime and iron internally, and the application of soap and opium liniment to the neck, for the relief of pain.

Dr. G. W. Campbell, after examining the case, said he believed that anchylosis was taking place.

Dr. SCOTT believed the case would in all probability prove fatal.

Dr. HOWARD exhibited a specimen of tuberculous disease of the larynx, obtained from the person of a young woman, who had died of pulmonary consumption. Numerous ulcers—some of them deep—are scattered over the mucous membrane of the left side of the vestibule, as far forwards as the base of the epiglottis, and upwards nearly to the edge of the ary-epiglottic folds. Similar ulcers stud the membrane covering the anterior surface of the arytenoid cartilages. An ulcer exists on the edge of one vocal cord, close to its anterior extremity; a very deep one perforates the membrane covering the thyroid cartilage, just at the attachment of the vocal cords; and several superficial abrasions, if not ulcerations, occupy the anterior portion of the sub-glottic space. The left ventricular band and the entrance to the corresponding ventricle are obscured by the swollen condition of the mucous membrane. Both lungs were stuffed with grey miliary tubercle and yellow opaque tubercle and caseous masses, with spots here and there of softening and disorganisation. The grey tubercle was very abundant, and presented a very fine example of that variety of morbid growth. The laryngeal symptoms had been distressing during life, and the voice reduced to a whisper.

The Society then adjourned.

CORRESPONDENCE.

THE TRINITY MEDICAL SCHOOL.

(To the Editors of the Canada Medical Journal)

GENTLEMEN,—I dare say many of your readers will be interested to learn that a medical school has been established in Toronto, in connection with the University of Trinity College. There is nothing remarkable, nor to be wondered at, that a college representing such an educated and cultivated class of the public, as the Episcopalians, should desire to provide for the professional education of their sons within their own institutions. But it has been announced that the University tests, which existed during the short-lived course of the Trinity Medical School many years ago, have been abolished, and both professor and student may belong to any denomination. In this abolition is to be seen the advancement of a more liberal spirit.

But what has caused no little comment in connection with the creation of this broader based Medical School, is the fact that the University established a Board of Examiners, and advertised that the examinations for the degrees of M. B. and M. D. would be held in the month of

April. The question arises from whence it is expected that candidates will be derived. Of course Trinity has no students of her own. Probably it would be only fair to the medical public that the University of Trinity College should announce which of the medical schools and colleges have become affiliated with her, or what school she will be pleased to recognise.

This unprecedented course of Trinity College has created more wonder from the fact that the Faculty has been appointed during the winter while the medical course of lectures in other schools was in operation. Finally it has caused astonishment that certain gentlemen connected with other medical schools, and in the discharge of their duties as lecturers and professors, should have allowed their names to appear as members of the faculty of the new school. It is to be hoped these gentlemen can explain their conduct, for the critical public is rather severe upon them at present, and will impute improper motives.

EX OPCRE OPERATO.

Toronto, March 20th, 1871.

PERISCOPIC DEPARTMENT.

Surgery.

A SPECIFIC IN ERYSIPELAS.

In presenting a case of facial erysipelas before the University Hospital clinical service last week, Dr. J. E. Garretson remarked, that in his practice of the past five years he had met with no case of erysipelas which had not readily and instantly yielded to the local application of the muriated tincture of iron, tincture of cinchona and sulphate of quinine. The case before him, he remarked, while threatening and angry looking, would, he felt convinced, so surely succumb, that he should give the patient the prescription and send her to her home, not to return for three days. Without attempting to enter into any special discussion of the variety of causes thought to influence this condition, Dr. Garretson said he felt sure that this peculiar inflammation had a basial irritant as specific in its character as that of small pox, typhoid fever, or the ague, and that as, in this latter disease, we had found an antagonist in quinine, and that of typhoid fever not unlikely in hydrochloric acid, so in this morbid inflammation he trusted it was found in the combination alluded to; as, said the lecturer, every effect is from a cause so rational as to abort effects by removal of causes. He was not, he said, prepared to deny the existence of specifics! it was common sense, rather, to believe in them. Everything in physics exhibited and demonstrated the existence of an

tagonisms. He thought some of the members of the class would, most likely, live to see the day when the intelligence of this, or the coming century, might make even cancer a disease no longer to be dreaded. Without doubt this cachexia had a cause. Why should not continued investigations discover this cause? and if discovered, there was nothing at all improbable, certainly, in the supposition that it was capable of being antagonised. "Belladonna," he said, "would antagonise opium; yet it has been only a short time since we knew so important a fact; and hundreds, perhaps thousands, have died, simply because they had the misfortune to be born before the medical mind knew of such an antagonism."

The following cases which, within two weeks back, had presented in his practice, were noted by Dr. G.:

Case 1.—Very old man; erysipelas of hand and arm attendant on an operation performed on one of the fingers three weeks before; parts heavily engorged and indurated, the finger sinking easily into the cushion-like mass. From fear, the patient had denied himself applying for assistance until the inflammation had been four days in progress. The whole arm presented the peculiar glisten, particularly that part just below the elbow, where an abscess was evidently forming. The combination, as usually prescribed, was directed. ℞. Tinct. ferri chlor., tinct. cinchonæ, f ʒ ij. quiniæ sulph., gr. xxx, aquæ, f ʒ iss, M. This was to be applied by means of a brush four times a day.

2nd day.—Blush all gone; opened the abscess; case well in a few days.

Case II.—Young professional gentleman; lacerated wound of ring finger; whole hand and lower portion of the forearm erysipelatous; fingers thrust widely apart by the swelling; back of hand a soft cushioning mass, few cases appear more threatening. No constitutional treatment; mixture applied as in the first instance, and hand enveloped in a poultice of flaxseed; next day the specific character of the inflammation had entirely disappeared. The treatment of this case was continued on general principles for five days, when the patient was in condition to be dismissed.

Case III.—Mill boy from the country; erysipelas of leg: three days in progress. The father of this lad presented him in great anxiety, having, during the summer of last year lost a son, with an erysipelas which commenced in a similar location. In the boy presented for treatment there was no wound or traumatic injury of the part affected. At 5 o'clock on one evening the mixture was applied, by the next, the case seemed and remained entirely cured.

Dr. Garretson said, if necessary, he could readily occupy the entire hour in an enumeration of cases, both of cutaneous and phlegmonous

varieties which had proven to him the good service capable of being performed by this application. He said he desired, however, not to be understood as advocating the combination as specific in an ordinary acceptation of the term; the intelligence of the class would well enough recognize that only one of many indications which might be present was proposed to be met; namely, the destruction of the specificity of the inflammation; this the lecturer likened to an injury which might be done by a musk-rat to a river bank, saying, that while the destruction of the rat would be specific treatment, there was yet a hole left to fill up.—*Medical Times.*

Materia Medica and Chemistry.

THE TREATMENT OF ULCERS AND OTHER GRANULATING SURFACES BY TRANSPLANTATION OF SKIN.

In the *Medical Times and Gazette*, October 29, may be found a paper on Skin-Grafting, by Mr. Dobson, of Bristol, and in the same issue, as well as in the *Lancet* for October 22, are recorded the results of this most important addition to modern surgery, as obtained in many of the London hospitals. This ingenious method for hastening the healing of ulcers which have resisted other methods of treatment was the invention of M. Reverdin, and it was first tried in London at St. George's Hospital last May by Mr. Pollock, since which time it has been widely adopted, and with unexceptionably favorable results when employed in suitable cases. The procedure is exceedingly simple, and may be thus described. Having waited until the wound or ulcer has assumed a healthy granulating appearance, a bit of the whole thickness of the skin, say the size of half a split pea, but without any of the subcutaneous cellular tissue, is pinched up from the inner side of the arm, and removed with a sharp scalpel or scissors curved on the flat. If the granulations are perfectly healthy and florid, the little bit is then pressed flat, with its under surface upon the granulations, and kept firmly applied by a strip of isinglass plaster passed across the ulcer. This form of plaster is useful in permitting the surgeon to see through it and watch the fate of the graft. Should the granulations be old and feeble, it will be better to follow the plan of Mr. Dobson, who divides on his thumb-nail the small bit of skin into five, seven, or nine pieces, as the case may be. He then makes a superficial incision into the granulations, waits until the slight bleeding has ceased, and inserts the grafts on the point of a needle. Care must be taken not to make too deep an insertion, or the graft may be entirely enveloped, and

will be longer in showing itself. The plaster may be left for five days or a week, by which time the graft will have become firmly attached to its new bed, and perhaps, if very small, imbedded and hidden among the granulations. It will soon, however, become again apparent, and then, with a lens, the characteristic blue line of growing cicatricial tissue will be discerned surrounding it.

As regards the behaviour of these minute portions of skin in their novel situation, Mr. Dobson, speaking generally, says, "At about the second day the cuticle begins to separate; by the fourth day only a faint pale spot marks the insertion, or there may be no evidence of it left at all; by the sixth day a faintly vascular tuft of granulation appears. This becomes glazed, and in a few days more the usual covering of cicatrix is formed. The patch is usually circular, and presents slight ridges, and continues to increase in size circularly until it reaches its maximum of growth. I have never seen a patch larger than a florin, and I have now seen large numbers of them. I should say that their average growth will not exceed the size of a six-pence."

The size of the piece of skin grafted seems to be somewhat a matter of fancy. Mr. Dobson, for example, prefers to divide a bit not larger than half a split pea into from five to twelve pieces, and dot these over the surface of the granulations in such a manner and sufficiently close together as to speedily subdivide the original sore by their coalescence. At St. George's Hospital, Mr. Pollock uses minute portions, not exceeding millet-seeds in size. Mr. Mason, of the Westminster Hospital, prefers pieces of the size of a canary-seed. At the Charing Cross Hospital, Mr. Bellamy employs very small grafts. At the University College Hospital, Mr. Heath uses small bits, the largest being the size of a split pea; while Mr. Lawson has treated most successfully, at the Middlesex Hospital, two ulcers of the leg with grafts as large as sixpenny pieces.

As illustrations of this practice, we subjoin the following cases. The first eight are from the *Lancet*, and were under the care of Mr. Mason. The first case was that of a woman who for three years had an ulcer of the leg, measuring about four inches by three. Three pieces of skin of the size of a canary-seed were snipped from the front of the upper arm and simply placed on the ulcer, and retained in position by means of a strip of transparent plaster, and over this water-dressing and a bandage were applied. At the end of a month the ulcer had nearly healed, each of these pieces having in a fortnight attained the size of a fourpenny piece.

The second case was that of a man with a flabby-looking ulcer as large as the hand, situated in the groin. Four small pieces from the front of

the upper arm were grafted. Three failed to grow, and the fourth, after one month, was only of the size of a pea.

The third subject was a woman with an unhealthy ulcer of the leg, extending nearly all around the limb. Four pieces were grafted, and they all failed to grow.

The fourth, a woman with an ulcer of the leg of four years' standing and two by three inches in size. Two pieces of skin were grafted, and in three weeks measured each a quarter of an inch in diameter.

The fifth, a man of middle age, with an ulcer of the leg, four by three inches in size, of nearly four years' standing, which was sloughing at the time of admission. Charcoal and linseed poultices were first applied, and the wound soon showed fairly healthy granulations, on which four pieces were grafted, and on the strips being removed, four days later, they were all found to have adhered. When seen eleven days after the operation, they were spreading rapidly.

The sixth, a girl, aged twenty, with a flabby ulcer on the thigh, of eight months' standing. Two pieces were grafted, with good result. In the seventh and eighth cases there were smaller ulcers, in which one piece only was grafted. They rapidly recovered.

In the second and third instances the failures arose from the trial being made upon unhealthy ulcers. A graft may, moreover, fail from some want of delicacy or from carelessness in the manipulation; for it is just one of those procedures which, though simple and easy of execution, require care and attention to minute details.

A typical example of healing of a large indolent ulcer from a burn occurred in the practice of Mr. Dobson. A lad, aged fifteen years, had received a fearful gunpowder burn of the abdomen, which, after the greater portion of the resulting wound had cicatrized, left a granulating surface eight inches long by five wide, which had for nearly six months refused to heal. Altogether, seven pieces of skin were removed from the inner side of the arm, which by subdivision yielded about forty grafts, by far the greater number of which lived in their new home. They were inserted pretty closely together, and in twelve weeks cicatrization was complete. In the following case, from the *Medical Times and Gazette*, a large graft was used:

"A man, aged twenty-four years, had been suffering from ulcers on the legs for three years, the sores sometimes healing over, but they had never been so bad as at the date of admission. (Middlesex Hospital.) On September 22, upon one of these ulcers, which had now assumed the appearance of a healthy granulating sore, two and a half inches square, Mr. Lawson grafted a bit of skin nearly as large as a sixpence, taken

from the arm. During the first week the fate of the bit seemed uncertain, but by the seventh day it was clearly living, and more vascular-looking than before, and it thenceforward continued to spread rapidly. When we saw the man again, on October 18, the ulcer had completely healed, but the transplanted skin was readily discernible as a slightly-elevated island of natural-looking integument in the midst of a surface of glazed cicatricial tissue."

Midwifery.

BLOODLETTING IN OBSTETRIC PRACTICE.

BY FORDICE BARKER, M. D.

Recently, while attending a patient in confinement, he found indications for venesection; and, not having a lancet at hand, stepped into the nearest instrument-maker's to procure one. There was not a lancet to be found in the shop! The attendant apologized, said they had little call for that article, but they had some making, which would be ready in a few days. This was an amusing index of the change which had come over the practise of the profession in the last twenty or thirty years. Doubtless, our predecessors bled more times in a week than we in a year. In all his obstetrical practice, in consultation, for the last fifteen years, he could not recall a single instance where bloodletting had been even alluded to, except in a few cases of puerperal convulsions.

He had made a careful examination of the standard authorities in midwifery of thirty years ago, a long list of whom he cited. By one or all of them bloodletting was recommended for the following, among other conditions, in gestation, parturition, and the puerperal state:

In gestation; for uterine irritation, uterine plethora, erratic pains, cramps of the lower extremities, spasmodic cough, palpitation, pruritus, solitude, anxiety, drowsiness, anasarca, to prevent abortion, and to promote expulsion where abortion is inevitable. One woman was reported as having been bled eighty-six times in one pregnancy, and another eighty seven times!

In paturition: for false pains, where the patient is plethoric; for irregular uterine contractions with pains feeble: for extreme rigidity of the os, or of the perinæum; to prevent inflammation; to prevent, and to cure, convulsions.

In the puerperal state phlebotomy constituted the most essential part of the treatment for the arrest and cure of all the post-partum inflammations, metritis, peritonitis, etc.; and by many it was recommended in Phlegmasia dolens.

As some one of the above conditions was pretty sure to occur in the course of pregnancy, parturition, or the puerperal state, it came about that almost every patient was bled at least once, and often many times, with every child. No doubt we could, nearly all of us, recall the picture of some jolly old grandmother, proud of her eight or ten children, and of the blood she had shed for each of them.

But were our predecessors all wrong, and is the recent practice all right? For his own part, the speaker found that, as he gained wider experience, he was gradually coming to bleed more frequently. This change in his practice had not arisen from any belief in a change in the constitution of the patients. But he had, for a considerable time, had a growing impression that this resource had been too much neglected—an impression recently strengthened by the suggestions contained in the introductory address of Dr. Benjamin W. Richardson. That paper, which he was surprised to see commanding so little attention in his country, no man in active practise could read without being instructed.

The speaker proposed to consider bloodletting exclusively as a remedy in obstetric practice. It was in this that it was formerly resorted to most frequently, and carried to the farthest extreme; and it was this in which it was now perhaps most neglected. He would speak of it in the diseases of pregnancy, in the complications of labour, and in the affections of the puerperal state.

Vertigo, flushing of the face, etc., used to be regarded as evidences of cerebral congestion, and bloodletting as the main remedy. To Cazeaux belonged chiefly the merit of calling attention to the fact that the most frequent of those disorders formerly attributed to plethora were really due to impoverishment of the blood, although doubtless many had before noticed that hydræmia gives much the same symtoms as plethora. Andral, indeed, had pointed out that a too great and a too small number of corpuscles passing through the vessels of the brain produce effects very similar. Cazeaux's tonic treatment had become generally adopted; but one result of this might be that real plethora was sometimes overlooked. Some feeble women would have the constitution so changed in pregnancy as to gain strength and flesh, and might become truly plethoric; and this might interfere with the fœtal circulation and produce derangements in the maternal. That the cessation of the fœtal movements is sometimes due to this cause was shown by the return of those movements when the mother is subjected to a moderate loss of blood.

Even in hydræmia there might be a serous congestion, a too great quantity of blood, where benefit would be derived from venesection followed by a tonic regimen and good diet.

Uterine and renal congestions—the former seen much oftener in feeble women—almost always made their appearance at the menstrual periods, when the woman would complain of tension and swelling of the abdomen, and of weight in the pelvis. If proper measures were not employed to reduce the congestion of the uterus, there might be a little flow of blood from it and some danger of abortion. This was commonly accompanied by marked vesical irritation. If these symptoms did not readily disappear, the speaker believed bleeding to be the best treatment, following it by chlorate of potassa and iron.

Or renal congestion he would only say that it is but recently we have learned that in some cases of cerebral congestion the primary hyperæmia is to be found in the kidneys. This was seen especially in the albuminuria of pregnancy. For a few years past he had succeeded in warding off the convulsions due to this cause by slight venesections, with a certainty such as he had never before gained by other means. He related a recent case of sudden and severe convulsions, in which he had taken thirty ounces of blood, besides inducing active purgation by elaterium. The woman had a few more convulsions, but completely recovered in a few days. On the same day with this case, he had seen, in consultation, a primipara in uræmic coma a few hours after delivery. Two or three days before, she had begun to complain of a fixed pain at the fundus uteri, which was unaccompanied by contractions, and which did not yield. The labour was rather tedious; the forceps were employed, and a dead child was delivered. The placenta came away readily, and on its uterine surface was found an organized clot as large as a man's hand. The patient died in three hours after he saw her. But little urine could be drawn from the bladder, and that was highly albuminous. It would seem as if nature had tried to relieve the renal congestion, and to relieve it by bleeding.

It was a great mistake to suppose that bloodletting should never be resorted to except in the sthenic condition. Some of the most decided benefits he had seen derived from it had been in cases of patients extremely anæmic. As an instance, he was called to a chlorotic woman in the last days of gestation, found the heart's action laboured and tumultuous, the face covered with perspiration, and every symtoms of the greatest distress. As speedily as possible he was opening a vein, when the gruff, hearty voice of old Dr. Francis greeted him with, "Well done, good and faithful servant." The abstraction of sixteen ounces of blood relieved the pulmonary œdema and the distention of the right heart, and doubtless saved the woman's life. Two days later the woman was delivered of a dead hydrocephalic child, after discharging an immense quantity of water. "She must have discharged a tub-full, sir," said Dr. Francis.

In parturition there was now little occasion for the use of bleeding to overcome causes of delay. In the warm douche, belladonna, and chloroform, we had better means of softening the os. Its chief use now, at this period, was to prevent threatened convulsions or apoplexy, by relieving spinal or cerebral congestion. This it would do where the tendency to convulsions was owing to over-stimulation of the nervous system from excess of blood, or to pressure from the same cause. Again, when the danger was dependent on uræmia, this measure was of cardinal importance. The speaker fully concurred with Dr. Richardson, that in cases of uræmic poisoning, where the urine is almost suppressed, where the convulsions are strong, and the coma is deep, there is no remedy so sure as the lancet. To bleed is to remove tension from the brain, to remove congestion from the lung and make free the breathing, to remove congestion from the kidney and restore its functional activity. Moreover, it should be considered that we are at the same time removing with the blood the poisonous material with which it is charged. Of two animals, each with the function of one kidney suppressed, one will live if, when uræmic convulsions appear, blood be drawn; the other, let alone, will die. —*Philadelphia Medical Times.*

Canada Medical Journal.

THE CANADIAN MEDICAL ASSOCIATION.

We have been given to understand that the draft of the proposed Dominion Medical Bill, as submitted at the last meeting of the Canadian Medical Association at Ottawa, together with the amendments caused by the Association, have been printed. They will at once be distributed by the Secretary as thoroughly as possible, to the members of the Profession throughout the Dominion. We bespeak for it a careful and candid examination, so that when the Association meets in September next at Quebec there will be a universal demand from every Province for its adoption. If we as a profession desire to assume our proper position, it can only be by united effort, and the burying of sectional jealousy. Let this be done, and we believe a bright future awaits us.

We are glad to learn from many quarters that our reports of the meetings of the Medico Chirurgical Society of Montreal have been read with much interest by our subscribers. Thus far this Society has been successful beyond the most sanguine expectations of its promoters.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

An Address upon the "Progress of Medical Science," read before the New Brunswick Medical Society. By William Bayard, M.D., Edinburgh, President of the Society, &c., &c.

Gentlemen.—The By-Laws of our Society direct that the president shall be elected annually; the rule is a good one, placing, as it does, the "honourable situation" into the hands of those who gave it, perhaps to be bestowed upon a more worthy member: and my term of office having expired, I must this evening call upon you to select another in my stead.

In retiring from the chair in which you have so kindly placed me, I would do injustice to my feelings, did I not avail myself of this opportunity to thank you for the courtesy that has been universally exhibited towards me, and let me add, that our meetings and debates have been conducted in a spirit of fraternity and kindness highly pleasing to reflect upon; illustrating the fact that associations like this tend to cultivate the heart, as well as the head, and to promote professional good will, and genuine brotherhood among their constituent members.

That the study of medicine is vastly promoted by such associations must be acknowledged. For the stimulus of mind upon mind, invigorates and sharpens the intellectual faculties, and produces a kind of intellectual contagion stimulating members to exertion. Our mutual intercourse, criticisms, and discussions, form "at once a school and an ordeal," teaching us to become more rigid observers of the medical phenomena occurring in our practice, more careful in our classification of these phenomena, and more perfect in our deductions from them.

Few of us leave this room without having heard some new professional fact, or idea, calculated to arrest our attention, and perhaps destined to give us a new and increased interest in some particular disease. And we are justified in assuming that the progress made in the healing art during the present century, may be attributed, in a great measure, to the stimulating and regulating influence of medical association.

Most of us have heard it broadly asserted that the healing art has remained comparatively stationary during the present century, while other departments of science and art have, during the same period, advanced with great rapidity.

It is true the marvellous applications of steam are creations of the present century. Watt and others have taught mankind to subdue and harness that "docile monster" to different kinds of machinery. By the steamboat we are safely wafted from shore to shore independant of wind or tide, and with the swift rush of the "iron horse" we are conveyed from place to place with the speed of the bird. It is also within the memory of most of us, that a greater feat has been achieved; the Electric Telegraph, that "railway of the mind," has annihilated space, and enabled us, instantly, to whisper our very thoughts from one extremity of the world to the other. And the "science of chemistry has taught the artist to convert that sun himself into a matchless painter," who, with wonderful rapidity, can elaborate the most difficult portraits and complex landscapes, with a degree of perfection unattainable by the human hand.

Yet it may be confidently maintained, that during the period in which these brilliant discoveries have been taking place, medicine has advanced in various directions and forms, by strides as marked and as great as those belonging to any other department of art.

To prove this statement let me endeavour to recall to your recollections some of the *principal* advances and changes that have been produced during the present century. Time will not permit, even were I able to discuss in detail, however briefly, the alterations that have occurred in some of the branches of medical study. As for example, in chemistry, a science, the very language of which has become revolutionized under the guidance of the atomic theory. Physiology has greatly improved, and is daily gaining additions to its domain. And anatomy itself has advanced in modern days, as is evidenced by the discovery that almost all, if not all the component elements and tissues of the human body, and of the bodies of other organized beings, do either consist, or have originally consisted, of nucleated cells.

I need not tell you that *Pathological Anatomy* was known and in some degree appreciated in olden times. But it is within the present century, that, by its light, the nature of diseases previously all but unknown have been explained, such as Bright's disease, morbus Addisonii endocarditis, ramollisement of the brain, phlebitis, œdema glottidis, emphysema of the lungs &c., &c. It has enabled us to separate into specific diseases, affections formerly confounded together; as, for instance, the

different diseases of the heart, various kinds of tumours, inflammatory affections of the lungs, pleurisy, pneumonia and bronchitis, &c., &c., and it has corrected our ideas respecting the nature of some maladies, by teaching us, for example, that delirium tremens is not to be confounded with inflammation of the brain and treated as such; that hydrocephalus, which was formerly recognised as pure dropsy, is the result of inflammatory or acute tubercular disease; that gangrena senilis is caused by obstruction and arterial inflammation, and not the result of weakness; and that cirrhosis should not be confounded with pleurisy. It has also taught us that in hysterical subjects, affections strangely resembling destructive disease of the synovial membrane of the joints, may occur, without the existence of such disease; and it has enlarged our knowledge of the causes and consequences of pyæmia. By it we have recently learned that the parasites infesting some of the brute creation used as the food of man, when taken into the human stomach alive, will produce a parasite of a different character, namely the tape-worm. For example, the bladder-worms growing between the fibres of the lean flesh of a measly pig constitute a preparatory stage of the common human tape-worm, the "tœnia solium," and in systematic zoology are described under the name of cysticerci cellulosœ, when eaten by man, are transformed into tape-worms. It is stated by Küchenmeister that on the 24th of November, 1859, he gave a prisoner 20 measles, and 20 more on the 18th of January 1860, in sandwiches made with sausage. The prisoner was executed on March 31st, 1860, that is, four months after the first, and two months and a half after the second eating of the measles. At the post-mortem examination 19 tape-worms, 11 of them 5 feet long, were found in the small intestines. If the meat containing the parasite is thoroughly well salted or cooked, no injurious consequences will result from eating it.

The microscope has changed and corrected our ideas respecting certain maladies, by proving the vegetable or cryptogamic structure of various eruptions upon the cutaneous and mucous surfaces of the body. It has revealed to us affections, the existence of which was previously unknown, as leucocythæmia, sarcinæ ventriculi, &c. It enables us to ascertain the malignant character of certain tumours and discharges. By it we learn that most of the entozoa found in the interior of the human system, enter it in the form of ova, along with our food and drink, thereby enabling us to modify our sanitary system, and it has greatly enlarged and will doubtless continue to enlarge our knowledge respecting the different morbid states of the urinary secretions. Indeed

the microscope in the hands of the modern practitioner, answers in a moment questions unanswerable without it.

The department of *Pathological Chemistry* has advanced much within the present century. It is advancing daily, and a herculean amount of work and information may be expected from it. We have reason to believe that if we knew the Pathological Chemistry of the blood and fluids as well as we know the pathological anatomy of the solids of the body, then medicine as a science and an art would make advances of the greatest moment.

Pathological chemistry and pathological anatomy together, enabled Dr. Bright to establish the great importance of albumen in the urine, as connected often, though not always, with organic changes in the kidney, but always indicating change in the pathological chemistry of the blood itself. And the recent researches of Dr. Richardson and others, have established that in very many inflammatory diseases, the fibrine of the blood is increased in quantity, and that the change of the fibrine from a fluid to a solid state is caused by increment of heat. Pathological chemistry has also proved to us that the fibrine in the blood is increased in cholera, while it is decreased in malarial and typhus fevers. And recent experiments have demonstrated the fact that the white corpuscles escape from the blood-vessels in inflammation.

A higher and more refined organic chemistry may yet enable us to detect the presence of special toxicological or morbid states of the blood, as producing the characteristic inflammations of the skin in eruptive diseases, puerperal and other fevers. May it not be a blood poison which gives rise to the numerous local, serous and other inflammations so often observed in patients suffering under albuminuria, and by it that vexed question may be settled, as to whether rheumatic fever is due to a *materies morbi*, and whether such *materies morbi* is lactic or acetic acid; and a higher chemistry may perhaps enable us to neutralize these pathological poisons in the system, or eject them from it.

The recent beautiful theory of Liebreich suggesting the adoption of the hydrate of chloral as a therapeutic agent, when he says that "the hydrate treated with an alkali is resolved into chloroform and a formate. The blood being an alkaline fluid, therefore when the hydrate is introduced into the organism, every particle of it will consume the surrounding quantity of alkali, and the decomposition will be completed only after the required amount of alkali has been furnished by the blood. Immediately a minimum quantity of chloroform is formed, and passes to the first place of action, viz., the ganglionic cells of the cerebrum. The action with the increase of chloroform in the blood extends to

the ganglia of the spinal cord, lastly, it extends to the ganglia cells of the heart. The researches of Dr. Richardson, based upon the suggestion of Liibreich, and the practical experience of the medical profession respecting its use, illustrate what may be expected from a higher pathological chemistry.

When we contrast medical practice at the present day with what it was sixty years ago, it must be acknowledged that the modern practitioner is greatly assisted by the late improvements in the means of *physical diagnosis*. By it he endeavours to discover during life, that which was formerly revealed only by the scalpel after death.

A *perfect* diagnosis cannot be arrived at, till we have an exhaustive pathology—for without a knowledge of what is *possible* in disease, diagnosis must be defective. Moreover, that which might be considered a pathological fact to-day, by changing circumstances may be proved erroneous to-morrow. Therefore, in the present state of our knowledge, we must be guided by the *probable* in disease. That experience which is able to anticipate causes, and from causes their effects, often enables the practitioner, as by prophetic insight, to diagnosticate conditions which neither direct physical examination nor the most systematic arrangement of symptoms would explain.

But, as already stated, modern invention and research have greatly contributed towards determining the true nature, and consequently in fixing more accurately the true treatment in different diseases; as, for example, Laennec and a host of subsequent observers have taught us how to map out the condition of internal parts, the action of which we hear, but cannot see. Czermak and others, by the application of optical instruments, have exposed to view organs of the body before inscrutable; the pharynx, the vocal cords, the trachea, the vagina, the uterus, the bladder, &c.; so that many of the hidden causes of disease are no longer a matter of conjecture, but of sight and demonstration.

The ingenuity of Helmholtz has disclosed the secrets of the eye; and it is not asserting too much to say that the *ophthalmoscope* has done more to increase our knowledge of diseases of that organ than has been accomplished during a century by all other means; and that the oculist can point to brilliant triumphs over diseases hitherto deemed incurable; and he is not now obliged to class a number of deep-seated diseases of the eye under the head of amaurosis—to which the remark of Walther is so applicable—"a condition where the patient sees nothing, and the doctor also—nothing." The opthalmoscope also teaches us that some states of the eye are pathognomonic of suspected conditions of other parts of the body.

The *Sphygmograph* of "Marey" has so supplemented the sense of touch that the wave phenomena of the pulse and heart are registered, by which we can fathom the secrets of the circulatory apparatus.

The *thermometer* has been brought to our aid with good practical results illustrating the temperature in different diseases.

And the *test tube* ably assists us in diagnosticating morbid conditions of the urine, &c.

Materia medica has greatly improved during the present century. Many new medicines have been added to the Pharmacopæia, and some have properly been expunged from it. The modern discovery of the active principles in our vegetable medicines under the form of the alkaloids, as quinine, morphia, salicine, atropine, &c., &c., has given the practitioner of the present day the means of exhibiting some of the most powerful and useful medicines in a concentrated form; not in the shape of large powders and nauseous tinctures, infusions and decoctions. And we have reason to hope that the work has only commenced, and that the chemist may further assist us by disarming most of our drugs of their revolting and disagreeable taste—a boon to both practitioner and patient.

Possibly most of the indications in therapeutics may yet be attained by the administration of medicines in other and less repulsive modes than through the stomach. While *inhalation* has been practised since the time of Galen, still modern chemistry and ingenuity have done much towards establishing it as *one* of the methods of exhibiting medicine. The method of *subcutaneous* injection is of modern creation,—daily experience proves its value,—by it we obtain a more rapid and certain effect from the remedy employed.

The practitioner of the present day can point with pride and satisfaction to the late improvements in *Practical Surgery*, without comparing its present state with the period at which the chafing-dish and the searing-iron were as indispensible to arrest hæmorrhage as is now the ligature; and when the cries of the sufferer were smothered only "by the hissing of the heated cauteries against the surface of the bleeding wound."

Appreciating the wonderful powers of nature in the cure of disease, his treatment of wounds and injuries is more simple and rational. He now allows the bleeding to cease, washes away all coagula, closes the wound and applies light water-dressings instead of the complex ointments, compresses, pledgets of carded tow, rollers, straps, &c., in use forty or fifty years ago. Nor has he the same dread of the appliance of stitches as his forefathers had. In fact, some of the greatest triumphs of modern surgery are associated with this simple mechanical process, as for example, the operations for cleft-palate, vesico-vaginal fistula, ovariotomy, &c.

The antiseptic system of treating wounds, recently suggested and put in practise by Lister, commends itself to the consideration of every surgeon; though a difference of opinion exists as to its merits, still experience may establish it as superior to all other modes of treatment.

There has been a great improvement in the treatment of sores "tending to heal," by the substitution of moist applications, instead of the ointments formerly employed, and in the "callous or indolent" ulcer by the application of blisters to the surface of the swollen part. I must also mention a very recent practice of M. Riverden, of Paris, that of transplanting portions of the skin for the closure of large granulating surfaces of ulcers, following burns, &c.

The substitution of effectual drainage in sinuses that remain after the evacuation of abscesses, for stimulating injections, sponge tents and pressure, is an improvement. And the drill, in deep-seated abscesses of bone, has, of late years, saved many a limb.

In few matters has surgery more improved than in the treatment of diseased joints; formerly recovery was considered almost hopeless, under the use of caustic-issues, &c.; whereas we now confidently look for recovery under perfect rest and extension. And should bony anchylosis take place, an artificial hip-joint may now be produced, by an ingenious operation suggested and recently performed successfully by Professor Sayre, of New York.

Since the commencement of the present century, many new operations have come into practice, as ovariotomy, the operation for vesico-vaginal fistula, cleft palate, removal of the tongue, the radical cure of hernia, excision of the upper and lower jaw, perineal incision in aggravated urethral stricture, delegation of the carotid, subclavian and other large arteries; in ophthalmic surgery, iridectomy, &c., and lithotrity, an operation characterised as one of the greatest additions to modern surgery, and one that must largely supersede the cutting operation of lithotomy, for, while the mortality from lithotomy ranges from one in six to one in ten, that from lithotrity, according to Sir H. Thompson, is about one in thirteen, and from present experience, it may be assumed that all stones weighing less than one ounce, in grown persons, should be removed with the lithotrite.

Increased knowledge of anatomy, physiology, and pathology, has enabled surgeons, within the same period, to remedy distortions and deformities arising from cutaneous and joint contractions. by subcutaneous incision and plastic operations.

Prior to 1809, when MacDowell, of Kentucky, first performed the operation of ovariotomy, every woman labouring under ovarian dropsy

was looked upon as doomed. And when Lizars, of Edinburgh, first operated in Great Britain, he was assailed by a certain amount of ridicule. I need not say to you that it is now one of the established operations, and for one of such magnitude marvellously successful, with a mortality of less than thirty-five per cent.

The experience of the practical surgeon teaches him to rely upon the powers of nature, and that it is his duty to assist and oftentimes to guide her; in other words, he is the pilot who can steer the ship, but who cannot make the wind blow. Knowing the wonderful assistance that nature will afford him, it is his boast that, in the present day, he can treat diseases without operative interference, where formerly the knife was considered indispensible; that he can substitute minor operations for more severe ones; that he can often save limbs by the removal of diseased joints, where years ago amputation was deemed inevitable; for example I need only mention excision of the hip, knee, ankle, shoulder, elbow and wrist joints, to prove the wonderful benefits of conservative surgery of late years. Removal of the ends of the bones in compound dislocations and fractures, instead of the limb, are examples of modern conservative surgery. I may also mention the treatment of aneurism by compression, acupressure, flexion, manipulation, galvanico-puncture, &c.

Improvements in individual operations have taken place, as in amputations, in the operation for hernia, that of removing cartilaginous bodies from the knee-joint, that of opening the canal from the inferior punctum, so as to obtain room for the passage of probes large enough to remove the obstruction in fistula lachrymalis, instead of styles permanently retained.

Acupressure, a new mode of restraining hæmorrhage, as recommended by Professor Simpson, is well worthy of practical application by the surgeon, for by experience alone, its value can be tested; it has its advocates and its opponents, so had the discovery of John Hunter; and who can say that it may not, at some future day, supersede the use of the ligature.

The most brilliant discovery in modern medicine, and one of the greatest boons ever conferred upon mankind, is the power the surgeon possesses of wrapping the patient in a painless sleep, while he is subjected to the horrors of the operating table. Yet, while accepting immunity from suffering, the patient incurs a certain amount of risk—statistics having proved that death has resulted from anesthæsia, regardless of the agent used, once in between 2,000 and 2,500 cases. The mortality is small, but let us hope that a substance may yet be discovered that will produce the effect required with impunity. Local anesthæsia, by freezing the part, is of modern origin, and is suitable for minor operations.

Practical Medicine advances by the discovery of new facts, and by the application of such facts to the treatment of disease. During the present century its advance has been quite as great as that of surgery.

The means of diagnosis at the command of the modern practitioners —his increased knowledge of the nature of disease,—and the improvements in chemistry and materia medica, enable him to apply his remedies with greater judgment, and to combat disease with more confidence of success than did his forefathers.

It would be hard to find a medical man in the present day recommending "*Lizards*" for the cure of cancer and venereal disease, as did Dr. Lettsom—a practitioner of standing in London—who read a paper to the medical society of that city in 1783 recommending them. Well may the following lines be attributed to him. He is made to say:

> When patients come to I,
> I physics, bleeds and sweats 'em,
> And if they choose to die,
> What's that to I, I lets 'em.
>
> I. LETTSOM.

Let us glance at the treatment of disease by *bleeding*. It is not many years since the lancet was in the hands of every practitioner, in daily, and I might say almost hourly use, whereas now it is one of the rarest operations; and instead of the loss of blood, we have the exhibition of stimulants;—and in place of almost starvation, we have the abundant use of nutriment. Now the question may be asked, what is the cause of this great change? It has certainly brought upon our predecessors, —by some,—the charge that they were ignorant and blind followers of error. But the reflecting man cannot bring his mind to believe that the fathers of British medicine were always bad observers and mistaken practitioners, consequently he is forced to look for the cause, in the "*change of type of disease.*" There are many strong arguments in favour of this doctrine,—arguments difficult to controvert, and when such men as Allison, Christison, Stokes, Graves, and Watson, give their strong adhesion to such belief, we may readily pause before denying it.

Many of us can call to mind the time when cold water was forbidden to a person with fever, and as for milk, he who gave it would have been accused of "feeding the fever" and thereby endangering the life of his patient. I need not say to you that such notions exist no longer, both being freely used.

In proof of the progress in practical medicine I may refer to improvements in relation to particular diseases. Consumption,—for example— a disease in which the physician's duty consisted in watching the slow "gradations of decay,"—making a prognosis of two years duration,—

and alleviating suffering as best he could. But now, under the use of cod-liver-oil, mineral acids, bitters and supporting nourishment, he no longer regards the disease as hopeless, and treats it looking for a cure; failing that, he confidently expects to prolong life. The experience and calculations of Dr. Williams justify the expectation, for he informs us that the average duration of life of phthisical patients has been extended from two years, the limit assigned by Laennec and Louis, to eight years. And he adds, that "in not very few cases, the disease is so permanently "arrested, that it may be called *cured.*" I may mention the treatment of oxaluria, phosphatic, and other diatheses indicated by the state of the urine, the use of iodine in goitre and other affections, iodide of potas in syphilis, gout, &c., bromide of potas, in epilepsy, &c., arsenic in many affections of the skin, the alkaline treatment of rheumatism, the successful use of nitrite of amyl in tetanus, and in angina pectoris, of hydrate of chloral as a narcotic, of quinine in acute lumbago, of drachm doses of tincture of henbane, with a little sulphate of magnesia three times a day in orchitis, of large doses of quinine in military surgery as a remedy for pyæmia; the banishment of scorbutus from our ships, &c, &c., also the vast improvement that has taken place of late years in the treatment of diseases of the womb and its appendages, and in diseases of the eye, I may refer to the use of atropia as a substitute for belladonna, and the calabar bean as a local application to contract the pupil.

Formerly all infantile diseases were considered by some as the results of febrile action, and treated as such, by others, as the results of weakness and treated with tonics and stimulants, and by a third class as the results of the irritation of worms and treated with anthelmintics. Modern investigators have proved that the different organs of the child are liable to nearly the same diseases as the adult, and should be treated accordingly.

The mortality of infants is still very large, but of late years it has greatly decreased. Towards the middle of the last century, 60 out of every 100 children born in London, died before they had reached their first year of age; but the mortality has steadily diminished, so that now, about 35 in every 100 die at that period. About 600,000 are born annually in Great Britain; of these 300,000 would have perished. Now about 200,000 die, thus showing a saving of at least 100,000 human beings a year. In New York the mortality is still very large; *one-third* of the children born, die in the first year, and one half before they have attained their fifth year of age. In Geneva, records have been kept since 1590, and it has been ascertained that a child has now five times greater chance of living to the age of twenty-one years than it had three centuries ago.

About the middle of the seventeenth century, one in every forty or fifty women delivered in London, died of child-birth and its consequences; but as medical science has advanced, that mortality has decreased, till now about 1 in 150 or 200 die. There are about 600,000 accouchments yearly in Great Britain, still about 3000 mothers perish. If the old mortality held good, not less than 11,000 or 12,000 maternal lives would now be lost. Consequently we may proudly point to this modern advancement in medical science, effecting, as it does, in this item alone, a saving of the lives of 7000 or 8000 mothers a year.

The mortality in the army, years ago, was immense. It was a disgrace to those in authority who positively refused to listen to the repeated appeals of the medical staff. And it was not till after the Crimean War, when Miss Nightingale brought the fact before the nation, that the laws which preventive medicine had established and applied in civil life were put in force. The result was that since the period named, the mortality in the Guards has fallen from 20 to 9, and in the infantry from 18 to 8. And the improvement in war is still more striking. In the Crimean war the sick in hospital were nearly seven times the number of the killed, while in the Chinese war they were nearly equal. The relative proportions of zymotic sickness in the two campaigns were as 6 to 60.

The present death-rate of fever in England amounts to 385 per 10,000 of population, while a century ago, its death-rate was nearly 539, and at the middle of the last century the annual death-rate from all causes in London, was 355 per 10,000 of population, but in the middle of the present century, it was only 249. In Sweden, in the period from 1755 to 1775, the death-rate was 289 per 10,000 of population, while from 1841 to 1850 it was reduced to 205.

In pursuing this subject let us contrast the state of the unfortunate lunatic of the present day with what it was sixty years ago, when deemed incapable of human feelings he was incarcerated in a dungeon, bound with chains, surrounded by filth, cut off from the friendship and charity of his fellow mortals, and treated with contumely, scorn, and stripes, a human being buried, yet living. Need I say to you how changed all this is now, and with what happy results? With the knowledge that the poor sufferer possesses the feelings, impulses, and affections of man, he is surrounded by comfort, all restraint is, or should be removed; and he is put under proper medical and moral management.

The preservation of human health, and the prolongation of human life, are two of the great and noble objects of practical medicine. These objects are to be attained more by the prevention of disease than by its cure. But to enable us to prevent diseases, we should be well

acquainted with their causes. These causes and the best means of avoiding them, have in a special manner engaged the attention of the physician of modern days. By it he has learned the vast importance of sanitary measures. His investigations have taught him that the attacks of almost all diseases are increased in intensity and frequency, in our households and communities, by the want of sufficient air, light, water and drainage, as well as by the deleterious effects of decomposing animal and vegetable matters allowed to remain within and around our dwellings, and by the human effluvia concentrated in small and stifling bed-rooms. They have taught him also that when the preceding causes of disease have been abated, in special localities, by proper sanitary arrangements, human life as a consequence has been saved, misery avoided, and pauperism prevented.

We find the mortality in country districts always less than in towns. In the country districts of England, it is about 1 in 58, while in the towns it seldom falls below 1 in 45. In all large towns where proper sanitary measures have been adopted the mortality has decreased. For example in London, in 1840, the death rate was 1 in 40, it is now 1 in 45; so in Boston, in 1855, it was 1 in 39, it is now 1 in 41.

As a further proof of the influence of sanitary measures upon certain localities in towns, I may mention that St. Giles, in London, formerly a filthy parish, now since every street and court has been brought under control, the mortality has been reduced from 50 in the 1000 to 15 in the 1000.

Class and occupation exercise their influence upon mortality, for we are told by Dr. Lyon Playfair that in Liverpool the average age at death of the gentry was 43 years, tradesmen 19, and laborers 16, the average age of all classes being 22 years.

In pursuing this subject I may mention that it is estimated that there are 8000 preventable deaths in New York, yearly. It is further estimated that for every death there are 27 cases of sickness, which would give a total of 216,000 cases of preventable sickness to be treated. When we reflect upon the misery, wretchedness and pauperism produced by these 216,000 cases of sickness capable of being prevented, it affords ample occupation for the physician, the philanthropist and the statesman.

Let us look at one other advancement of practical medicine, one to which the physician may proudly point as the greatest discovery of the age, a victory of medicine over disease and death. I allude to the discovery of vaccination by Jenner, to whom Providence, as it were, entrusted the office of teaching the surgeon, with an almost invisible speck of matter upon the point of his lancet, to defy, in a measure, one of the most fatal diseases that ever afflicted the human race.

The vast importance of this discovery can only be appreciated when we take into consideration the ravages produced by small pox prior to the introduction of vaccination. We are told that this disease was a terror to mankind, "sweeping over the land like fire over the prairies, smiting down prince and peasant;" that about the year 1519 in Mexico, it suddenly carried off 3½ millions of population; that in Brazil in the year 1563 it extirpated whole races of human beings; that about the same period in the single province of Quito, it destroyed 100,000 Indians; that in Iceland in 1707 it carried off 18,000 out of a population of 50,000; that in Greenland in 1737, nearly two-thirds of the population were swept away by it; that in France it caused one-tenth of all the deaths, and in England one-fourteenth; that the annual mortality from it in Europe alone amounted to half a million; that one-third of those attacked died, and that it destroyed, maimed or disfigured one-fourth of mankind.

Let us now look at the pleasing side of the picture, and see what the mortality from this loathsome disease is at present. The following illustrations selected from various sources, give an approximative idea of the mortality from small-pox in each million of the population before and since the introduction of vaccination.

Sweden.....	2050	185	Copenhagen.....	3128	286
Westphalia..	2643	114	Berlin.....	3422	176
Moravia.....	5402	255	England.....	3000	200

Doctor Farr tells us that the combined mortality of small-pox, measles and scarlatina at present, is only half as great as the mortality occasioned by small-pox alone, before the introduction of vaccination.

Experience and statistics teach us that small-pox occasionally occurs among those who have been vaccinated; that if 1,000 persons who have been *well* vaccinated should be exposed to the contagion of the disease, about twenty-six will take it; that among vaccinated persons infected with small-pox, the danger of the disease is chiefly determined by the badness and insufficiency of their vaccination; that the fatality of small-pox when it attacks the *unvaccinated* is 350 per 1,000; that its fatality to such *vaccinated* persons as it infects is, taking them indiscriminately, 70 per 1,000, but, distinguishing vaccinated persons into two classes, first, those who have been vaccinated in the best known manner, and second, those who have been badly vaccinated, the fatality of small-pox, if it infects the former, will be 5 per 1,000, if it infects the latter, 150 per 1,000; and that the risk of the one is 30 times that of the other. Or, in other words, let an unvaccinated person contract small-pox, and the chances are more than *one in three* that he dies. Let a very badly

vaccinated person—a person with one imperfect cicatrix—contract small-pox and the chances are not quite *one in eight* that he dies. Let a person with two good vaccine cicatrices have small-pox, and his chances of dying are less than *one in forty*. But persons who have been vaccinated in the best and most complete way, will, if they ever get small-pox afterwards, not die of it at the rate of much more than *one in two hundred*.

It may be safely asserted that the lancet of Jenner, armed with the cow-pox matter, has saved in the world more human lives than gun-powder and the sword were ever successful in slaying, during any century in the history of mankind. And let us say, honour to the man who found the way to arrest this dreadful scourge, and who taught us that the seeds of the disease transferred to another soil might be made to germinate with a healthy and saving influence—a glory to our art, and to the nation claiming him as a son. Yet that nation neglected to bestow any mark of distinction upon the doer of all this good. Such favours being reserved for the inventor of instruments for the destruction of human life—the user of them—the courtier, and the politician; the man whose life is spent in ministering to the suffering of his fellow-man, however successfully, being generally the last to receive such honours.

It is to be regretted that notwithstanding the facts before us, men are to be found ignorant and weak-minded enough to deny the benefits of this wonderful agent. And we hear of "*anti-vaccination societies*," composed, I am happy to say, with very few exceptions, of men not belonging to the profession; men whose prejudices must have destroyed any reasoning power they might have possessed.

According to Short's mortality bills of London, plague, dysentry, small-pox, ague, and child-birth were the most destructive diseases in the time of Sydenham. It is needless for me to say that they sustain their formidable and fatal character no longer. And does not the history of the past encourage us in the belief that perhaps in 60 or 70 years hence, under the guidance of hygienic and medical means, the same may be said of those diseases that are at present the most destructive and deadly in their effects upon our population; namely, consumption, convulsions, typhus-fever, scarlet-fever, pneumonia, and bronchitis. We have the arrest of small-pox by vaccination as a stimulus to induce us to follow the footsteps of Jenner. And who can say that means may not shortly be devised to arrest the ravages of scarlet-fever, measles or whooping-cough? For the conquest of small-pox appeared to our fore-fathers—judging from the writings of Dr. Mead—as impossible as the conquest of these maladies can appear to any one now.

While we contend that medicine has advanced we must also acknowledge the uncertainty of the art. The source of this uncertainty may be found partly in its imperfections, but more in the intractability of intense forms of disease, the ferments of which poison the system to such an extent that death must inevitably be the result. Take as an example, malignant scarlet-fever; observe the utter prostration, rigors, stupor, swollen throat, offensive breath, and thready, failing pulse, which indicate intense blood-poisoning. Here death is as certain as if the patient had taken a poisonous dose of prussic acid. Medicine is foiled by the overwhelming power of its antagonist.

In conclusion let us hope that enough has been shown in this paper, imperfect as I freely acknowledge it to be, to prove that the science of medicine has kept pace with other sciences in the march of improvement. Yet, in the face of such facts, the workers in our noble profession are too often told that they are not advancing because they cannot conquer death, or triumph over all forms of disease. I do not allude to believers in "*isms*" or "*pathy's*," it is their interest to say so, and we can afford to treat them with silence. But, I grieve to say it is the fashion now-a-days to hold up the stumblings and uncertainties of medicine to the public gaze; to invoke ridicule and censure, and should a practitioner get into the hands of a jury, here again he has to contend against ignorance of medical power and responsibility, and expects to be told that if he does not save life or limb he must pay the penalty.

St. John, N. B., January 18th, 1871.

Valedictory Address to the Graduates in Medicine and Surgery, McGill University. Delivered on behalf of the Medical Faculty at the Annual Convocation, held in the William Molson Hall of the University, on Friday, the 31st March, 1871. By GEORGE E. FENWICK, M.D., Professor of Clinical Surgery and Medical Jurisprudence.

GENTLEMEN GRADUATES.—It is a time honoured custom to address to the Graduating class a few parting words of counsel, and in doing so allow me to call your attention to the very important era in your career which has this day commenced. You go forth from these walls fully recognized by the outer world as regularly educated physicians and surgeons, and in every respect save one we can endorse that opinion; from the very creditable manner in which you have severally acquitted yourselves at the examinations, we feel confident that you will one and all reflect credit on McGill University. The one point alone in which you will for a time feel your own incompetence is that of experience; resembling the period of early childhood you are about to trust to your

own powers; your gait may at first be trembling, and for a time you will painfully experience all that hesitancy shown by the infant when first it parts from its mother's arms on its onward walk.

The conscientious physician at the outset of his career is fully aware of his want of experience—experience which lends to him courage to persevere in what he feels is right. Brimfull of theory he assays to treat diseases according to doctrines that he has seen successfully put in practice at the bed-side, and if disaster attends his efforts he is too apt to attribute his want of success to his own short-sightedness, or else to look upon his theory as a delusion. Surgery, on the other hand, being a more exact science, will generally yield more apparent favourable results. But to be a surgeon a man requires all that firmness of resolve and decision of character, with mechanical aptitude, which is occasionally seen, but which is by no means a common gift. To be a surgeon a man requires a special training. Many men can perform operations; they may possess a sufficient amount of animal courage to risk the severance of vital parts, and even jest at a spouting artery or quivering muscle—but gentlemen, this is not surgery. Let me counsel you, therefore, at the outset of your career, not to be too full of confidence on the one hand, nor yet too diffident on the other. Be careful to study well each case intrusted to your charge, and if you have any doubt, remember that the life, perchance, of a fellow-mortal is in your hands, and seek aid and counsel, if attainable, from those of larger experience than yourselves. Be not hasty at arriving at a conclusion as to the nature of any given case: it may look clever, and perhaps if a lucky hit be made, may tend to elevate you in the opinion of those who employ you. If, on the other hand, by arriving at too hasty a conclusion the interest of your patient suffers through your error, it will be a source of life-long annoyance, although the circumstances may be known to you alone.

Throughout your pupilage you have had ample opportunities of seeing the principles taught in the class room put in practice in the wards of the Hospital. And although medicine and surgery must be looked upon as progressive sciences, and change is almost of daily occurrence, yet many aphorisms received in early life come back to the physician and surgeon with such force as to convince him that the experience and intuitive knowledge of those who preceded him, were based on sound principles. Gentlemen, you have entered on a life of drudgery, where the strain of mental work is only equalled by the bodily fatigue which each day will call forth. While other men take their ease and comfort, the physician and surgeon is forced to labour. No rest can he expect; his days and

nights are given in the service of others, and in the end he receives thanks, given grudgingly, for what no money value can compensate. What man is there, that is mortal, who can endure the constant strain on the energies, physical and intellectual, which the practising physician or surgeon has to go through? Throughout your career you will fully recognise the necessity of keeping pace with the advance of knowledge; this will necessarily entail devotion of a great portion of your time to study. Returning home after a day of fatigue and mental anxiety, you will feel that your work is incomplete and you will be forced to labour still, while your more fortunate neighbour is enjoying the solace of domestic repose, without a care, and without the chance of disturbed rest in sleep, which is to our exhausted energies a physiological necessity.

Remember that to give satisfaction you are expected to be successful, and the successful man is not usually a book-worm; he should, with his mental acquirements, possess an amount of common sense, to know when and how to apply his knowledge. Bear in mind that the world is sensorious, hypercritical; every action of your life will be carefully scrutinized and criticised—criticised in no spirit of benevolence or honest kindliness—your very success will be subject of remark and, perchance, disparagement; so that wearied of well doing you may at times feel disposed to relinquish the practice of your profession in disgust. Do not expect to receive anything but hard knocks; and as the world has seemingly conspired against us as a class, let the knowledge of what you are to expect draw you in closer bonds of union towards your brother practitioner. Ever remember, in your walk through life, if brought in antagonism with a brother, that you are fellow labourers, and if you observe error or misconception, give honest counsel and advice. If on the other hand, you are convinced that the counsel and advice of a brother is correct, although adverse to your own preconceived opinion, yield with gracefulness, and do not enter into a controversy, which may end in your own discomfiture.

It may not be considered out of place to refer casually to the present position of the profession in the neighbouring province of Ontario. Those of you who hail from the west are fully aware that the standing of the profession has been lowered by ill-advised but, perhaps, honest men. As professional men, you will find yourselves allied and on an equality with many whom you cannot meet or recognize as physicians or surgeons. Many of these persons constantly advertise in the daily papers that they are Licentiates of the College of Physicians and Surgeons of Ontario. Some never attended a course of lectures on medical or surgical science,

and some never passed any examination as a test of proficiency; nor have they further qualification than that above referred to. These persons possess greater powers in the Medical Council of Ontario than do members of legitimate medicine. This insult, for I can call it by no other name, has been put upon our profession by the Local Legislature of Ontario; but it admits of remedy. Individually you are powerless; but, as a body, you can wield a power that will, in time, completely change the present aspect. If, as one man, the regular profession of Ontario act for the common weal, they can do much towards obtaining a repeal of the present objectionable law under which they are governed.

During the last few years there has been formed in this Dominion of Canada a Medical Association on the same basis, and with the same object as the British Medical Association, which has been for many years past in the parent state the rallying point of the profession, and has exerted so great an influence in advancing the present high character of medical education in Great Britain. It is greatly to be desired that members of the Medical Profession throughout the Dominion should join our association, and further our objects, which are not alone those of social and professional intercourse.

I would suggest the establishment of Branch Associations throughout the country, and that each Branch so formed should send one or more delegates to our annual gathering. Let the work be entered into in an earnest spirit of reform, and, above all, by the profession in Ontario with a full determination of relieving itself from its present anomalous position.

Coming back to a subject more pertinent, allow me to announce that the governing body of this University has decided on the erection of a new building for the use of the Medical Faculty, and arrangements have been made whereby we hope that before the commencement of another session, a handsome and commodious building will be far advanced toward completion. This, with all modern appliances, will give increased facilities for illustrating the practical portion of the course. This is a want which has been severely felt in view of the increasing number of students attending the classes of this faculty.

In conclusion let me allude to the high trust you have this day assumed. Your conduct in every day life will be narrowly scrutinised, and what in other men would be passed over as a foible, or error in judgment, will in you be censured as a crime. A physician is expected to be grave, serious, thoughtful, as though he were ever dealing with the grim messenger—this, I need hardly tell you, is too much to expect, but there is a wide difference between cheerfulness and levity. Endeavour, therefore, so to

conduct your walk through life, that at its close you will be remembered with affection and esteem. Let your life be pure, simple, spotless—ever ready to promote a good work of benevolence in connexion with your profession, so that at the end you may reasonably expect the approbation of your fellow men, and look forward with hope for a reward beyond the grave.

The physician is a very intimate friend in a family, and is often the custodian of family secrets; how necessary, then, for him to be silent and reserved. The world is full of littleness, but, in this respect, the medical man should take a high and honourable stand. Bacon held "every man a debtor to his profession, from the which, as men of course do seek to receive countenance and profit, so ought they of duty to endeavour, themselves, by way of amends, to be a help and ornament thereunto."

At the outset of your career you will have many temptations, which, if yielded to, lead into the vortex of unsatisfying pleasures. Life is all too short to be frittered away in vanity; time lost can never be recalled, and you will bitterly regret, if, after years spent in frivolity, you arrive at that period when the mental energies are failing, without having availed yourselves of the world's advance. Be therefore no laggards—persevere from the very outset—acquire habits of regularity and industry—so will you experience a measure of satisfaction at the end of each day's toil, and at life's close feel that your career has not been objectless.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

MEETING HELD 18TH MARCH, 1871.

Dr. ROBERT GODFREY, Vice-President, in the chair.

Dr. GEORGE E. FENWICK related the following interesting case:—

I am induced to bring before you this evening a case simple in character, but of interest from its rarity:—E. S., aged 51 years, a strong, healthy woman, the mother of eight children and a widow, consulted me professionally on the 28th January, for an attack of mumps; the parotid and sub-maxillary glands of right side were swollen, tender, and somewhat glazed; there was considerable pain of an aching character, great distortion of the face, and inability to open the mouth or swallow anything but liquids. She had been ill for two days, the attack having come on gradually. As her bowels had not moved for two days, I prescribed a saline aperient, and advised the face to be swathed in flannel. The following day she appeared better, had passed a good night,

the swelling was quite as great, but there was less heat of surface and less tenderness. I ordered a saline mixture of chlorate of potash to be repeated every two or three hours. On the third day of my attendance, the fifth of the disease, the swelling and tenderness was almost gone and she expressed herself as feeling very much better; towards evening she was attacked with violent headache, retching, and a a sense of fulness in the lower part of the abdomen on the right side, which was tender on deep pressure. The following morning she noticed a distinct catamenial flow which lasted four days and then gradually subsided. During this attack the tenderness of the abdomen continued, and she was unable to stand in the erect posture without increasing the pain; she noticed also that while in bed stretching out the right leg occasioned increased pain so that she retained the thighs flexed on the abdomen. This discomfort gradually subsided and she recovered without further trouble, after a week's confinement to bed. It will be remarked she was 51 years of age, and the catamenial flow had ceased during the past six years.

Metastasis in mumps is noticed as occurring to the testis in the male and the mamma in the female; the brain or its membranes have, in some cases, been affected secondarily. When the testis becomes affected it has been noticed to occur on the same side as that on which the disease has attacked the parotid gland, and in some cases when both parotids have been affected metastasis has taken place to both testes; the same fact has been noticed as occurring in metastasis to the mammæ; but I have failed to observe the record of metastasis taking place to the ovary; though why it should not as likely occur to this organ, as being the analogue in the female of the testicle in the male, will appear at first sight somewhat singular.

In the case at present recorded, certainly the ovary was affected, as evidenced by the sense of fulness in that region which was accompanied by deep-seated tenderness. In the article on mumps in "Reynold's Practise of Medicine" the writer states that the labia and uterus are in some cases secondarily affected; but no other author mentions the fact that metastasis takes place to the ovary. This is the only case of the kind I have had an opportunity of noticing during a practise extending over twenty-four years, although I have observed on several occasions in adults the testis becoming affected, after subsidence of the disease in the parotid gland.

Dr. Reddy enquired if the fever subsided when the menstrual flow commenced.

Dr. Fenwick said that it did.

Dr. DAVID said that some years ago a somewhat similar case occurred in his practice. Mumps broke out in a family, and five or six were attacked with it; two of them were young ladies, 17 and 20 years of age; both were very irregular in their menstruation, pale, and chlorotic. before the attack. During the course of the disease they both suffered from menorrhagia, when the mumps at once subsided. From that day till the present time they have both been quite regular. One is married, and has a large family. Old authors state that a condition of things similar to that mentioned by Dr. FENWICK was common; such was, however, not the case now, but whether due to better treatment, he could not say.

Dr. REDDY said the interesting part in Dr. FENWICK's case was the sudden appearance of the discharge so long after the time of natural arrest was past.

Dr. DAVID mentioned a case that occurred many years ago in Wales, where a lady, over 70 years of age, had a menstrual flow from metastasis.

Dr. HINGSTON thought there were two remarkable things in the case related by Dr. FENWICK: first, that mumps should have occurred at all in a lady of so great an age; and secondly, that it should bring on a flow. Lately, there was an epidemic of mumps among the students of St. Mary's College, where, in boys, there was metastasis to the breast. He recently also had another case in a little girl, who had not attained puberty, where there was metastasis to the breast.

Dr. GODFREY stated that mumps had been very prevalent in his practice. In one family, where all or nearly all were attacked, one of the members had them pass on to suppuration.

Dr. FENWICK in reply stated that he had examined all the older authors that were accesssable to him, and could not find any reference to the subject; his friend, Dr. David, made a broad statement, but did not mention any author who drew special attention to this point.

Dr. PELTIER then read the following paper on

RETROVERSION OF THE UTERUS:

On the 20th January, 1870, I was called to attend a Mrs. C., aged 28, from Rochester, who had arrived in this city the month previous—she is the mother of three children living—from that date up to the 5th of February (16 days), she was labouring under bilious fever, for which she received all the treatment which is ordinarily followed in such cases by all practitioners of experience.

I had been told at my first visit that she was pregnant, and regretted much that she was so; mentioning also, that it was about two months since she had had her last changes. All that she complained of then was

of a bilious disorder. I saw her every day, and found her improving, so much so, that I allowed her to get up on the morning of the 4th. On the evening of the 5th I was called suddenly to see her, when, to my surprise, she had a very high pulse, a swollen abdomen, with tympanitis; a slight discharge of blood gave me to believe that miscarriage was about to take place. I calmed her fears as to any serious consequence, and, after having ordered some antispasmodic, I retired. Next morning, the 6th, I was in attendance early, fearing that some storm was ahead. I was not mistaken, for I found my patient in what I might justly call a typhoid state—facies hypocratic; sweating profusely; pulse small, thread-like, 120; abdomen still distended; urine had not been discharged since evening previous; bowels had been moved; still slight discharge of blood; great nervous excitement from great pain all over abdomen; restlessness, and anxiety about her position; pains simulating that of labour.

I did not hesitate to enquire at once as to the cause of these sudden changes, which the symptoms proved to be alarming.

I made a vaginal examination and found—what? a globular tumour low down, which startled me; after a more minute examination, I could not reach the os tincæ, and concluded that I might have to deal with retroversion of the uterus, which, necessarily being gravid, made the case very much worse. Examination per rectum convinced me that it was really complete retroversion. I tried to replace the uterus, but to no avail; passed the catheter into the bladder, expecting through this agency to obtain replacement.

If we were to believe authors—Moreau, Hunter, Velpeau, Dewees, Meigs, and others—replacing the womb would be always successful. I am sorry that I cannot agree with them, at least, when having to replace a gravid uterus. It is true that this is the first case of the sort which it has been my lot to meet.

I therefore concluded that, as the case would prove fatal, it was my duty to inform the husband, and also her sister.

A consultation was advised, and at noon, Drs. D'ORSONNENS and TRUDEL were in attendance; their examination corroborated what I had thought to be completed retroversion. The case being urgent, we decided on trying to reach the os tincæ with finger, if possible, and with a small crotchet afterwards, so as to allow us to puncture membranes and to give escape to the embryo.

We did succeed in puncturing the membranes with a straight catheter, in which there was a small stylet, the point of which is in a lancet form. The embryo did not escape; the mother breathed her last two hours after the operation.

A post-mortem examination was made at 8 a.m. next morning, the 7th, when the uterus, retroverted, was found pressing on rectum, with elongated round ligaments, and occupying the bottom of the pelvis; great inflammation of peritoneum, but no exudation; womb was opened, and there we found an embryo a little more than two months old.

I see that a case exactly similar to this one, so far as the retroversion by itself is concerned, is related by Dr. Weir, of Glasgow, where the the patient, after undergoing a similar process as the one I resorted to, perfectly recovered after a four months' fœtus had been extracted.

Now, gentlemen, this is a most appalling case, which I submit to your reflection. There is one remark to be made concerning this case, that on the evening previous—that is on the 5th—I was told by her sister that she had taken Clarke's pills, some days before she was taken ill, to bring on miscarriage. This led me to believe that, probably what I had taken to be bilious fever, might have been symptoms of the retroversion of the gravid uterus from the use of these pills, which had acted forcibly on the muscles of the uterus, and reacted therefore by irritation of the sacral plexus on the spinal marrow, and thence on the different organs, particularly the stomach and liver, giving rise to irritation such as to simulate bilious fever.

Dr. Reddy. Did you suspect that the patient had previously used mechanical means to procure abortion? (No.) Did you adopt but the one method? (Yes.) Did you find retention? (Yes.) Had had a very similar case following a fall—patient was greatly collapsed for twelve hours after the accident; the symptoms were much the same as those detailed, save that they were not of a typhoid character. After reduction and the use of leeches and warm fomentation she quite recovered.

Dr. Hingston enquired how Dr. Peltier recognized through the rectum so readily, the retroversion of the uterus; he believed it very difficult to diagnose retroversion without something in the uterus itself; and further that it was almost impossible to reduce a uterus thus displaced without the sound or some other instrument introduced into the cavity. In a great majority of cases, if a pregnant female complain of severe (and perhaps sudden) pain in the back and epigastrium and there be no prolapse, you will probably find retroversion or retroflexion.

Dr. Fenwick could not agree with the last speaker as to the difficulty of diagnosing retroversion or the necessity of the sound. He had seen several cases and in these the nature of the malposition was readily made out by the general symptoms, as frequent micturition and difficulty in defecation, and by the vaginal touch, discovering the os high up behind the pubis and the existence of a globular tumor encroaching upon the rectum.

Dr. HINGSTON had met with cases in which the os was against the bladder and a tumor in the rectum and still the sound went forward. He thought we should all use the speculum less and the sound more, and we would get better information.

Dr. REDDY spoke of the difficulties occasionally encountered in the use of the sound, as for instance, an obstruction at the inner os, and recommended the Sims' probe as free from this objection.

Dr. FENWICK did not wish to be understood as condemning the use of the sound, but simply that he did not consider it a difficult matter to fully reorganize retroversion without it. In Dr. PELTIER'S case there were reasons why the sound should not have been used, as he was led to believe that the uterus was gravid.

Dr. CRAIK thought the uterus was a much abused organ. There was far too great a tendency to attribute every disorder arising among females, to irritation of the uterus.

A vote of thanks having been tendered to Dr. PELTIER by the Society, the meeting adjourned.

PERISCOPIC DEPARTMENT.

CHEMICAL CLIMATOLOGY.

By R. ANGUS SMITH Esq., PH. D., F.R.S.

We live in air, and the air flows continually through us; no wonder, then, that we are influenced by climate, which means the condition of the air. When we speak of climate we think of the atmosphere in constant motion, bringing with it different degrees of temperature and moisture from distant regions. It is everywhere constantly changing, but the changes are of more frequent and of greater amplitude in some places than in others. The average condition is the climate of a place. The changes made by the movements of the air, are numerous. The operations of man also are productive of changes so striking and so vital, that we may be said to make a climate for ourselves according to our mode of living. We rush over the world, scarcely considering that the air we inhale must change at almost every step; and we build our houses not thinking that every field has a climate of its own, unless circumstances are more nearly the same than we can hope for in our country. In extensive tracts, where soil, level, and inclination are similar, such as great prairies or steeps, there will be few changes, until the borders are approached, in which case contiguity of other influences will produce a variation. In England, which is comparatively a small country, with much variety of soil, it is difficult to find a place where a short distance

does not produce some change, and in Scotland, a still smaller and more aried country, the differences of climate are more striking. Indeed every farmer studies his land in this respect; and the fields are devoted to various purposes, according to climate as well as soil.

We are exposed to great changes of climates arising from the condition of our civilization; and although we cannot effect complete alterations, it is possible to do something. To learn the method, we must by careful observation ascertain how we are effected. Who would have thonght that persons living in a swampy district could be cured of ague, and regain their steadiness of muscle by simply putting drain-pipes under the soil around them? Who would have thought that cold, bracing weather, which is popularly supposed to be healthy, would be so deadly to many, as is shown by the Registrar's reports? But so it is, and we despise less than before the instinct that shrinks from cold. Who would not be surprised at the meteorologist watching the fluctuations of his barometer, remarking, "This is a dreadful night somewhere, and wrecks must even now be taking place?" But the admitted correctness of such inferences and their practical utility show the value of observations of the barometer, and hygrometer, and of the wind and rain fall.

Circumstances led me to examine the subject rather from the point of view which may be called chemical, as distinguished from the physical and medical views.

CONSTITUTION OF THE ATMOSPHERE.

Gases.

Regnault was the first to show clearly that there are consistent differences in the amounts of oxygen and nitrogen in the atmosphere of unwholesome places not closely confined within walls. Having been appointed to examine the air of mines by the Royal Commission of which Lord Kinnaird was chairman, I was led to examine several hundred specimens of air differing from the standard usually found on the surface of the earth. It was needful to examine the purer air also as a means of comparison. This was done by obtaining specimens from the principal hill tops of Scotland, and from heath-land and shores, as well as from the surface of the ocean. A few were also obtained from German deep workings, and a very small number from marshy places in France and Switzerland. A considerable variety of artificial climates in close places were also examined, and found to approach the condition of the less crowded or better class of metal mines. In addition to these the air of town and country was compared, and that found in different states of the weather. The result as regards oxygen is shown in the

following table. The details of the analyses may be seen in the report on the "Air of mines and Close Places" in the appendix to the report of the Royal Commission in 1864; and in the late volume of the Memoirs of the Literary and Philosophical Society of Manchester.

OXYGEN IN THE AIR.—SUMMARY OF AVERAGES.

	Volume per cent.
N. E. sea-shore and open heath (Scotland)	20·999
Atlantic, lat. 43° 5. long., W., 17° 12',	20·99
Tops of hills (Scotland)	29·08
In a suburb of Manchester in wet weather	20·98
In a suburb in Manchester in wet weather	20·96
In the outer circle of Manchester, not raining	20 947
Low parts of Perth	20·935
Swampy places, favorable weather	20·922 to 20·95
In fog and frost in Manchester.	20·00
In a sitting room, which felt close, but not excessivly so..	20·89
Best ventilated wards in three London hospitals—	
Day	20·92
Midnight	20·886
Morning	20·884
In a small room with petroleum lamp	20 84
Ditto, after six hours	20·83
Pit of theatre, 11.30 p.m	20·74
Gallery, 10·30 p.m	20·86
About backs of houses and closets	20·70
In large cavities in metalliferous mines (average of many)	20·77
In currents in metalliferous mines (average of many)	20·65
Court of Queen's Bench, 2nd February, 1866	20·65
Ditto at Lantern	20·49
Under shafts in metalliferous mines (average of many)	20·424
In sumps or depressions in metalliferous mines, (average of many)	20·14
When candles go out..	18·5
The worst specimen yet examined in the mine	18·27
Very difficult to remain for many minutes	17·2

CARBONIC ACID IN THE AIR.

Hills above 3,100 feet	·0336
Do. between 2,000 and 3,000 ft.	·0332
Do. between 1,000 and 2,000 ft.	·0334
Do. below 1,000 feet	·0337
At the bottom of the same hills	·0341
On hills in Scotland from 1,000 feet high to 4,406	·0332
In the sts. of London, summer.	.0380
In the London parks and open places	·0301
On the Thames at London	·0343
Where fields begin	·0369
Manchester streets, ordinary weather	·0403
During fogs in Manchester	·0679
About middens	·0774
In workshops, to	·3000
In theatres, worst parts, as much as	·3200
In mines, largest amount found in Cornwall	2·5000
Average of 339	·7805

After finding carbonic acid and oxgen, we have been accustomed to take the remainder as nitrogen. It would, however, be well to know if there is really any tendency in nature to keep up a definite amount of nitrogen. We know nothing that can diminish or increase its amount directly to any appreciable extent; and when the amount of oxygen is diminished by breathing, the space is filled up by carbonic acid, leaving the same proportion of nitrogen as before. If, however, this carbonic acid is washed out or absorbed, we have at once air with increased nitrogen, but diminished oxygen. This may be supposed to happen when rain washes carbonic acid out of the air of towns, as in a perfectly

tight chamber, the carbonic acid formed by breathing is absorbed by lime. Then the nitrogen increases proportionately, the oxygen diminishes really, but the air is kept for a long time in a state pleasant to breathe. It is found, however, that in towns when the rain washes out the carbonic acid the oxygen is greater than before. In such cases the rain probably makes an exchange; it absorbs the one and gives out the other. This however, has not been proved, and inquiry is wanted.

It is interesting to examine how far this action may be carried. Some of the analyses gave more than 21 per cent of oxygen. This number is not given among the averages, which alone are used here. It is usual to think this a mistake, but it may not be so: as nature has evidently a mode of adjusting differences, certain portions of the air may have at times a greater stock of oxygen for the purpose. The purity of air may be considered as favorably affecting the sanitary state of the more moist counties; but the actual increase of oxygen there is not proved. We may suppose that as pure water, dissolves air with a greater amount of oxygen in it than common air, the pure air may give out some in falling. In that case we require to suppose that the amount abstracted from the upper regions of the air renders the proportion smaller. This would explain the fact that a smaller amount is found on the tops of mountains. We have in vegetation a source of oxygen at certain seasons, and also in animalcular life; but this would not be available to produce the result on a sudden in a town during rain fall. The formation of ozone in the upper atmosphere does not give us more oxygen; we obtain only a more active condition of that element. The formation of ozone at the surface and of nitrous gas also, by evaporation, affect, in conjunction with the elimination of oxygen by organisms, the supply of that which may be removed.

It would be interesting to know what is the constitution of the air in various seasons of the year, and over various lands and crops, as well as amongst the crops, and in forests.

It will be observed from the table that the amount of carbonic acid does not fall below 0·03. Smaller values have, however, been observed in plains. When the oxygen rises high, the amount may be considered correct, even when the percentage is volumetrically wrong. For example let some of it be as ozone; the condensation of the ozone would produce a result greater than 100. The amount of nitrogen is generally calculated from the remainder, and not directly estimated. It may turn out that by following this clew, we may obtain a mode of analysis of the air for ozone if it is condensed oxygen.

Some people will probably inquire why we should give so much atten-

tion to such minute quantities—between 20·980 and 20·999—thinking these small differences can in no way affect us. A little more or less oxygen might not affect us; but supposing its place occupied by hurtful matter, we must not look on the amount as too small. Subtracting 0·980 from 0·999, we have a difference of 190 in a million. In a gallon of water there are 70,000 grains let us put into it an impurity at the rate of 190 in 1,000,000: it amounts to 13·3 grains in a gallon, or 0·19 grammes in a litre. This amount would be considered enormous if it consisted of putrifying matter, or any organic matter usually found in water. But we drink only a comparatively small quantity of water, and the whole 13 grains would not be swallowed in a day, whereas we take into our lungs from 1,000 to 2,000 gallons of air daily. The detection of impurities in the air is therefore of the utmost importance, and it is only by the finest methods that they can be ascertained in small quantities of air, even when present in such quantity as to prove deleterious to health.

We must remember also that the blood receives the air and such impurities as are not filtered out in its passage, while it is the stomach which receives the water we drink, and that organ has for many substances a power of disinfection and destruction which blood does not possess. If by inhalation we took up at the rate of 13 grains of unwholesome matter per day—half a grain per hour—we need not be surprised if it hurt us. Such an amount is an enormous dose of some poisons, and yet this is not above one two thousandth part of a grain at every inhalation. It is marvellous what small amounts may affect us, even when by repeated action, they do not cumulate as certain poisons do. The carbonic acid numbers might have been used instead of the oxygen numbers, with the same result. On the actual affect of carbonic acid there are separate experiments: but its amount is an important index to the state of the air. The organic matter is the dangerous agent, but of all organic matter, some of it may be wholesome, some neutral, and some putrid, but the most dangerous seems to be the organized, existing in minute germs or spores.

We began by assuming very small shades of difference, namely, 190 in a million; but if we examine the table we find much greater amounts. Take, for example, the pit of a theatre: we have, by subtracting 20·74 from 20·999, a difference of 2,590 in a million, or 14 times more. And so on we may go to the lowest, where we have 17·2, which taken from 20·999, leaves 3·799 or 37·990 in a million, or 200 times more than the first example. The conclusion to be drawn from all this simply is that we cannot make the analysis too minutely.

SOLID BODIES IN THE AIR.

Boussingault, Vogel, Southwood, Smith, Pasteur, and others, have found organic matter in the air. Spores and germs were long ago known to be disseminated by it, although unseen, but there was no systematic method of examining the air of mines, it was found that the tubes in which air specimens were collected contained a good deal of dust, some of which was crystalline. These crystals were chiefly sulphate of potash, but some were nitrate of potash, and perhaps carbonates from the exploded saltpetre. It was possible, therefore to obtain in a very distinct form the solid matters in such cases.

This and some previous experiments led naturally to a very simple mode of washing out the impurities of the air. The air of a large bottle was shaken in contact with water: the air was renewed as often as was desired, and the water then examined. The results obtained by this means were very distinct, and no air was found so free from impurities as to leave the water clean. By this mode forms and organisms were obtained which clearly have vitality, since in some the power of locomotion was developed.

In one atmosphere a certain milkiness is observed by washing a single bottle of air; in another it requires a hundred bottles to produce an equal amount. If the amount of visible impurity were all that was required to be known this method would be sufficient for all purposes; but it is desirable also to know the quality of the substances. In a cowhouse where there were diseased cattle, a large amount of matter was found in the air, which was easily seen by washing a half-gallon bottle of air, or even less. May not some of these substances carry, or be themselves the disease? The only difficulty lies in discriminating between those which conveyed the disease and those which did not. There are forms floating even where healthy animals live; some found, for instance, in a stable where were healthy horses, and some in the wet on walls and windows of places exposed to perspiration. Hospitals might be examined in this way, and many other places, such as swamps, which might be expected to give marked results.

If, however, the undeveloped spore shows no distinctive mark, it may be developed by keeping it in the medium in which it was caught. Instances occurred when no locomotion was at first visible, but became so after a time. This was observed several years ago in perspiration, and last year in the washings of air. Now, if we could develope them so as to distinguish, an important point would be gained.

The air washings promise to be very interesting. Those obtained

om Buxton, at Blackpool, and at Manchester may be known at once. Those obtained near Buxton contained lime and were white, although on a wet day and at least a mile from the blasting of the rock. Those at Blackpool on the seashore, were remarkably clean; they were taken after rain. Organisms were not sought in free country air.

PRODUCTS OF DECOMPOSITION.

It is known that when organized bodies decomposed, more or less ammonia is given out. it ought, therefore to be found in the air. I have not yet determined the smallest amount of washings in which ammonia can be found. This will, however, be a mode of ascertaining the condition of air so far as decomposing matter is concerned, from which there will be no appeal. The amount of soluble salts of chlorine and sulphuric acid has often been examined, and differences have been found to a very great extent. Of the chlorine of the chlorides the smallest amount, in a certain measure, was 31·78 grains inland, that is at Buxton, Derbyshire, and the highest 312·5 in a manufacturing town where chlorides were decomposed. The inquiry has also shown that chlorides increase in the air when coal is burnt, even when there are no manufactures for specially decomposing chlorides.

The amount of sulphuric acid, free and combined, was found to vary from 75 to 4,000 in equal bulks. Some of the washings were rather laborious, as from 100 to 1,000 bottles were generally used for outdoor specimens.

By the use of this method we may be able to estimate the amount of sea air which comes to any region when it can be freed of the presence of coal, and by means of the sulphates we shall be able to tell the amount of decomposition. At least it seems to me the sulphates must come from decomposed matter, giving out sulphuretted hydrogen or its ammonia compound. I do not doubt that an equivalent of ammonia will often be found with the acid: but not always, since, by the experiments of M. Robierre of Nantes, the upper air contains nitrates and the lower air ammonia in predominance. Gernez has found sulphates in the atmosphere of Germany. They have been found in the rain at Darmstadt and vicinity, at Zwingenberg, and at Giessen, and at all places where sought. The remarkable point is their increase on land; there seems no reason for this except decomposition and coal burning. It seems too much to refer the whole to the fuel.

RAIN.

In the rain from the Hebrides (and the Atlantic, as collected by Dr. Carpenter as far north as the Shetlands), the sulphates diminished far

below the chlorides there; the rain partakes of the quality of sea-water. Still we require to account for the great ease with which the salts are diffused in the atmosphere; we do not yet know whether there is a power of separation. At the present experiments are against this, and lead rather to the belief that the rain contains actual sea-water with an addition of sulphates. Now, what is the origin of these sulphates? We should expect the great ocean to keep all the gases formed within it; but diffusion is rapid, and the spray is often high, so that opportunities of mixture must occur. Specimens of sea rain examined are too few to answer all questions that arise.

The mode of washing the air may be resorted to in examining ventilation and the air found in very dry places. When the examination is to be made out-of-doors, and in a country with a large rain fall, we have provided by nature a mode of air washing. Country rain and town rain are easily distinguished—at least the rain of places where much coal is burned; the one is clear and colorless, the other black and muddy; the one is tastless, the other tastes of soot; the one is neutral, the other is acid and corrodes metals and even stones and bricks, destroying mortar rapidly, and spoiling many colors readily.

These common observations require only to be supplemented by the refinements of chemical experiment. This can readily be done, for the rain washes the air, and we find it purer. The impurity which goes into the water is easily taken out. The results are similar to those obtained by washing the air; the first and most striking is the sulphuric acid arising from the burning coal.

SPECIMEN OF RESULTS BY EXAMINING RAIN.

Hydrochloric Acid. Combined and Uncombined Chlorine. Relation to the average of that from Row, Dunbartonshire, taken as 100. Comparative quantities only.

Row, Dumbartonshire.....	100·00	1
Birkenhead.....	461·87	4½
Near an alkali work.....	495 83	5
Whiston [from covered tank.....	512·24	5
Newcastle on Tyne.....	1158·77	11½
Manchester.....	1438·00	14½
Liverpool.....	1684·00	17
Waterloo (shore near do].	5214·30	52

Rain,—Sulphuric Acid. Relation to that from Row, Dunbartonshire, taken as 100.

Row, Dunbartonshire....	100·00	1
Waterloo.....	329·34	2¼
Whiston.....	398·28	4
Birkenhead.....	464·47	4½
Liverpool.....	706·02	7
Newcastle-on-Tyne	891·43	9
Manchester.....	973·00	9¾
Near an alkali work.....	1470·00	14

Rain.—Total Acid. Relation to that in Rain from Row, Dunbartonshire, which is taken as 100.

Row, Dunbartonshire.....	100·00	1
Whiston.....	470·69	4¾
Birkenhead.....	528·29	5¼
Liverpool.....	938·21	9¾
Waterloo.....	961·98	9½
Newcastle-on-Tyne.....	1054·73	10½
Manchester,.....	1272·54	11¾
Near an alkali work.....	1539.27	15¾

AMMONIA.

It is quite proved that there is more ammonia in inhabited than unin-

habited places. There will be less difference when there is much rain or much wind, or very great dryness. These conditions are in reality favorable to health, each with its peculiar exception and modifications. Liebig examined the Giessen rain; others have made similar examinations, but much yet remains to be done.

Rain waters collected during 1869.	Ammonia Free, and with Acid. Parts pev Million.
Darmstadt, February	5·30
Do. during a thunderstorm, May 26th	1·00
Zwingenberg, near Darmstadt, on the top of a hill, July	0·85
Heidelberg, Schlossberg, June 15.	0·40
Tyree, May	0.40
Kelly, Wemyss Bay, Clyde, south west wind, June 12th-15th	0·15
St. Helens, west wind, February 13th-March 11th	6·00
Do., much east wind, April 22nd May 26th	3·67
Manchester, 30 feet from the ground, August	1·50
Do., same place September	2·70
Do., 12 feet from the ground, back of Laboratory, April	18·00
Do., same place. August	4·20
Do., during a thunderstorm; rain had fallen heavily, just before, September 10th	0·84
Do., 2 feet from the ground, behind the Literary and Philosopical Society, 9th 31st Aug.	9·09
Do. same place during Sept.	2·80

The amount in Darmstdat seems high for a small place. The washing of the air by the rain is strikingly shown. The advantage of a slight elevation and distance from a town is shown at Zwingenberg; and at Schlossberg, on a slight elevation behind the town. The greater purity of sea air is shown on the coast at Wemyss Bay. No specimens were collected with greater care than those from Wemyss Bay. The above may be accepted as at least valuable comparative amounts. The differences in height are shown in Manchester. These experiments agree with those made at Vantes, by Robierre. The ammonia dininishes, whilst nitric acid increases, up to a habitable height. The Manchester specimens were behind houses, or in confined situations. By these means we may be able to to tell plainly and authoratively if a place is close or otherwise: and to say that the rain or the air when washed, must not show more than a given amount so as to be fit for respiration. In this way it may be possibly authorative to fix a limit to the density of the population and the extent to which manufactures may be carried on within a given area.

ALBUMINOUS MATTER.

We cannot, however, except that all the nitrogen of organic substances should pass into ammonia at once, especially as it has been shown that there are substances visible in the washed air. These may be in part nitrogenous bodies carried up: and if we decompose these, we shal obtain the ammonia. After obtaining the ammonia, by the Wanklye method, by boiling with carbonate of potash, we can apply his mode of

decomposing albuminous bodies mainly by the use of caustic potash, and permanganate, so as to obtain the ammonia resulting. We can thus to some extent analyse the organic matter of the air. If we treat the rain of various places in this manner, we have results corresponding to the density of population to some extent; but there will also be differences caused by currents, rates of decomposition, and washing. We have for example :—

Rain waters collected during 1869.	Albuminoid Ammonia. Parts per Million.
Darmstadt, February	0·30
Do., during a thunderstorm, May 26th	0·075
Zwingenberg, near Heidleberge, July	0·15
Heidelberg, June 15th	0·087
Tyree, May	0·30
Kelly, Wemyss Bay, southwest wind, June 2nd-15th	0·075
St. Helens, west wind, February 18th-March 11th	0·15
Do., April 23rd	0·20
Manchester, 30 feet from the ground, August	0·15
Do., same place, September	0·30
Do., 12 feet from the ground, Feb.	0·30
Do., same place, June	0·15
Do., During a thunderstorm. Rain had fallen heavily just before. Collected about 2 ft. from the ground, Sept. 10th	0·079
Do,, 2 feet from the ground, behind the Literary and Philosophical Society, September	0·25

We have here the amount of ammonia from substances decomposed by caustic soda and permanganate. Darmstdhansat and Tyree are both rather high. Darmstdhansat being a town, might be supposed to have cause sufficient. The Tyree specimen was, I believe well collected, as the inorganic salts were such as precluded the idea of all impurity of that kind; but some local cause may have affected it, such as the decomposing of weeds, as there is a large kelp work on the island.

NITRIC ACID.

A curious result is found in the case of nitric acid; the Continental rain contains much more than our rain, so far as the observations yet go. This is what might have been expected, because in a drier atomosphere there would be less nitric acid carried down, and in a warmer there would be more formed, if nitrification in the atmosphere requires the same temperature as in the soil. It is uncertain whether this is an accident or a common characteristic. In another point there seems a difference between the Continental atmosphere and ours. Pettenkofer finds 0·05 per cent. of carbonic acid in the free air at Munich, which is a town of wide and open streets, especially at the University. In the streets of Manchester a smaller amount is generally found. About 0·04 is the amount in tolerably open situations.

Rain waters collected during 1868.	Nitric Acid per Million.
Darmstadt, February	8·894
Do., during a thunderstorm, May 26th	1·112
Zwingenberg, July	0·370
Heidelberg, June 15th	0·370
N. Uist, March	0·556
Kelly, June 12th, 15th	0·185
St. Helens, March 11th-April 22.	0·926
Do., April 23rd-May 30th	0·556
Manchester, 30 feet from the ground, August	1.482
Manchester, 12 feet from the ground, February	0.370
Manchester, 12 feet from the ground, July	1·668
Manchester, 20 feet from the ground, Sept.	0·741
Manchester, during a thunderstorm. Rain had fallen heavily just before. September 10	

The large amount of solid matter in specimens of rain sent from Glasgow led me to connect it with the great mortality of that town. Steps are being taken to obtain specimens of rain in several towns for the prosecution of this branch of inquiry.

For a satisfactory investigation of the subject we must look to the multiplication of these experiments, and perhaps to the establishment of a department at some observatories for chemical climatology and meteorology.—*Journal of Scottish Meteorological Society.*

NOTES ON BIOGENESIS AND ABIOGENESIS.

By E. McClure, M.A.

The spontaneous generation question has been invested with an increased interest since the delivery of Professor Huxley's address at the late meeting of the British Association. The advocates of the opposing theories on the subject have started to work with renewed zeal to bring the matter to a definite issue. Professor Huxley and Dr. Bastian stand forward as the acknowledged leaders on both sides. The labours of the latter gentleman, who contends for the spontaneous generation, or abiogenesis theory, are certainly very zealous. His recent papers in "*Nature*" have won for him many partisans both here and in America. The *New York Medical Gazette* of the 5th of November devotes an article to the subject, in which there is exhibited a considerable leaning to the Abiogenesis theory. The experiments of Dr. Bastian upon sealed tins of preserved meat, and flasks containing organic matter, exposed for a lengthened period to a temperature as high as 300° Fahrenheit, seem of great weight to the writer of that article. The objections of Professor Tyndall, however, are impartially noticed, and the Editor calls for further and crucial experiments, in order that this important question may be settled. He thinks, however, that there are *a priori* considerations to encourage the supporters of the Abiogenesis theory. There must have been, he

maintains, a period—prior to the "origin of species," or the era of "natural selection"—when the first organic compound came into existence; and he is inclined to believe that this must have taken place by the "re-arrangement of the molecules" of inorganic matter, by the operation of physical forces under certain fixed conditions of which we are yet quite ignorant; and that this process is very probably going on around us still.

Dr. Cameron, in his "Report on Public Health," in the November number of the *Dublin Quarterly Journal of Medical Science*, after reviewing Professor Huxley's late address, states that Dr. Burdon Sanderson believes that the recent researches in this subject have established at least one fundamental doctrine—namely, that every kind of *contagion* consists of particles. The smallest organisms as yet discovered are of a spheroidal corpuscular form, called *micrococcus* by Hallier, and *microzymæ* by Béchamp. It may be interesting to give the former gentleman's opinions regarding their structure, a review of whose work appeared some time ago in the *Medical Times and Gazette*:—

"If, for instance, micrococcus gathers on the surface of the fermenting fluid, the newly-formed subdivisions of the parent cells remain in connection, forming links of a chain. In the same way, these chains may form in masses upon the mucous membrane of the mouth and pharynx, and pass, more or less broken up, through the alimentary canal, and may be found in large masses in the fæces. Remak gave these forms the name of Leptothrix buccalis; but since leptothrix is a kind of alga, I have preferred to call them mycothrix. In the same way, beautiful arborescent growths may be produced under certain atmospheric influences which have been called hormyscium, but which should rather be called the hormyscium form of micrococcus. In like manner, anthrococcus may present several varieties, which have been classified as oïdium, torlhansua, &c

"Micrococcus, cryptococcus, and anthrococcus are, therefore, not separate species, but merely morphæ, or forms representing stages in the growth of different fungi, which, however similar they may be to each other, never lose their specific characters. A fact of the utmost value in the study of vegetable parasites is that we are enabled to make each yea t cell bud and develop, if we place it on an appropriate solid soil and provide it with filtered air.

"In the blood and tissues of the human body, rich in nitrogen, of course, the micrococcus of fungi alone is to be found. Anthrococcus is, however, frequently found on the surface of the mucous membrane of the mouth and stomach, whilst cryptococcus is sometimes met with in the contents of the stomach after certain kinds of food have been taken. When the

micrococcus of any fungus occurs in large masses in the blood of man, it may generally be looked upon as a pathological indication. I have, however, occasionally found the micrococcus of Penicillium crustaceum in the blood of perfectly healthy people. At all events, the occurrence of micrococcus in blood can only be considered as of any real pathological moment when it is known from what fungus it proceeds.

"The micrococcus cells are generally so small that they require to be magnified 2,000 diameters to be examined, as they do not present distinctive characters. The fungus from which they have been derived can only be determined by cultivating them. I have succeeded in finding the micrococcus of certain fungi in a considerable number of diseases, and have always found one form peculiar to one and the same disease. To develop the fungus, in each case a supply of filtered air and a solid substratum are necessary, as mentioned above. Under these circumstances, the micrococcus gradually enlarges, until the cells reach about the diameter of the respective fungus. These large translucent cells, which have been named "sporoids," are capable of budding."—*Journal of Cataneous Medicine.*

The Liver the Seat of Formation of Urea.—The latest researches upon the place of origin of urea, and especially the beautiful experiments of M. Gréhant, have demonstrated that the kidneys are by no means secretory, but purely excretory, organs for urea. Dr. Cyon, in the last number of the *Central blatz*, published a few facts in the form of a provisional communication, to show that it is probably produced at the liver. The plan of experimentation adopted (in common with M. Istomin) was as follows: The whole of the blood was abstracted from the carotid of a dog, and a portion, after being defibrinated, was transmitted by means of mercurial pressure through the liver. Coincidently three canulæ were introduced—one into the inferior vena cava, the second into the hepatic artery, and the third into the vena porta. The results of careful analysis showed that the blood which had passed through the liver contained a much larger proportion of urea than ordinary arterial blood. In one experiment 100 c. c. of the arterial blood when defibrinated contained 0.08 grammes of urea; but after having been passed four times throngh the liver, the same quantity contained 0.176 grammes.—*Lancet.*

Canada Medical Journal.

MONTREAL, APRIL, 1871.

SMALL-POX--ITS PROBABLE ADVENT.

For some months past the City of Montreal has been free from that scourge Small-pox. How long we are to remain so is questionable. A case, the first of the kind, was admitted into the Montreal General Hospital recently. The patient was a passenger by the steamship "Scandinavian" on her last trip to Portland, and, so far as we could ascertain, he must have contracted the disease before leaving Liverpool. We are aware that Small-pox of a very severe type exists in some quarters of the city of Liverpool, and we may fully expect any number of cases with the tide of emigration..

In conversation with a *confrere* the other day, he suggested the idea of shipping agents insisting on vaccination being performed on all passengers, prior to embarkation for this country; this we do believe a good suggestion if it could be carried out, and would be very beneficial, both to the owners of vessels as well as to the individuals emigrating. Sir James Simpson, in a paper which he published shortly before his last fatal illness, suggested universal vaccination, adult and infant, with a view of "stamping out," as he termed it, the disease, Small-pox.

With regard to the protective influence of vaccine, we think that no man of sound and disposing mind would entertain a doubt on this head. From the observations of Ganster and others it has been proved that the protective influence of vaccine diminishes every year after the fourteenth, dating from its performance, so that it becomes a settled axiom that re-vaccination of adults is a wise precautionary measure, in view of a threatened epidemic of Small-pox.

It is a fact that Small-pox is more or less epidemic throughout Europe; all the large seaport towns suffering from the disease in variable intensity, it becomes the duty of the Government to issue special regulations with regard to careful quarantine. No vessel coming from an infected port should be permitted to pass the quarantine station; if a single case of Small-pox has broken out on board during the passage, without careful ventilation, fumigation and cleansing. All vessels should be obliged to stop at the quarantine station, or all the

passengers should be carefully inspected by a medical officer prior to permitting them to pass up to Quebec. No exemption should be made in the case of steamships. The delay may occasion some inconvenience to importers; but that delay should not be for a moment thought of when compared with the fearful consequences of introducing into our country, by direct contact, so fearful a scourge as Small-pox.

It is a settled fact that Small-pox has a distinct period of incubation. The disease consists in a specific poison, which, on entering the circulation, gives rise to a train of symptoms more or less severe, according to individual peculiarities. The period of incubation is stated to be twelve days, that is, dating from exposure to the commencement of the attack. This period of latency is unattended with symptoms o indisposition. About the twelfth day after exposure the individual shows the first indication of the disease, and three days thereafter the eruption commences to appear. It is our own experience, and we believe the experience of most physicians, that vaccination, if properly performed, will, even though the poison of Small-pox is already in the system, have a modifying influence. This fact is, perhaps, the strongest argument in favor of re-vaccination; and, with regard to the suggestion that all passengers should be vaccinated, or re-vaccinated, prior to embarcation, we believe that, if shipping agents would rigidly carry out this rule, much good would result, and there would be less chance of their vessels being detained in quarantine for variable periods, extending in some instances over several weeks.

With regard to universal re-vaccination, we have always recommended it, and practised it when requested to do so. The trouble and inconvenience is trifling; no possible harm can accrue; much good may, however follow, more especially in a large community, among whom there must be many who are not protected, and who, by submitting to a trifling operation, not more painful than the scratch of a pin, and a few days uneasiness, place themselves in the very best possible condition of resisting the poisonous influence of a most loathsome disease, which, in all likelihood, will become epidemic in spite of the utmost care to prevent such a catastrophe.

ANNUAL CONVOCATION McGILL UNIVERSITY.

The Annual Convocation of this University was held in the William Molson Hall, on Friday, the 31st March, 1871, for conferring degrees in Medicine and Surgery, and Law.

The proceedings were opened with prayer by the Venerable Archdeacon Leach, D.C.L., LL.D., the Vice-Principal.

The Dean of the Medical Faculty, George W. Campbell, A.M., M.D., made the following announcement :—

The total number of students in the past session was 150 (an increase of 10 over the preceding session) of these there were from the Province of Ontario, 78; from the Province of Quebec, 61; Nova Scotia, 4; New Brunswick, 1; Newfoundland, 2; Prince Edward Island, 2; United States, 2.

The number of students who passed their Primary Examination, which includes Anatomy, Chemistry, Materia Medica, Institutes of Medicine, and Botany or Zoology, was 26; as follows :—

Hamilton Allen, Alex. D. Blackader, B.A., Arthur A. Browne, George M. Christie, William Copeland, Daniel C. Cram, George M. G. Farewell, George W. Gernon, John R. Hamilton, Zotique Hébert, Harry Hetherington, Robert Howard, Samuel N. Jackson, Thomas Kelly, Albert E. Mallory, Louis T. Marceau, Peter McLaren, James T. Monroe, John Morrison, B.A., William R. Nicol, William J. Sharpe, Leonard St. John, George A. Stark, Alexander Stewart, A. Dixon Wagner, William E. Waugh.

The number of students who passed their final examination for the degree of M.D.C.M. was 29. Of these, 16 are from Ontario, 9 from Quebec, 2 from Nova Scotia, 1 from New Brunswick, and 1 from Newfoundland.

Their names, and subjects of their theses, are as follows :—

R. A. Alexander, Urinary Calculi.
L. H. Beaudry, Pathology of the Secretions.
Alexander D. Blackader, B.A., Common Sensation.
H. R. Brissett, Diseases of the Heart.
A. J. Cattenach, Morbus Coxæ.
W. Clarke, B.A., Acupressure.
F. F. D'Avignon, Strabismus.
G. M. Duncan, Chloral.
John Duncan, Calculus Vesicæ.
G. W. Faulkner, Dysentery.
C. M. Freeman, Diabetes Mellitus.
M. Gardner, Typhoid Fever.
J. R. Hamilton, Talipes Varus.
L. G. Hunt, Tubercular Meningitis.
T. G. Johnston, Diabetes Mellitus.
H. McConkey, Erysipelas.
C. F. A. Locke, Dyspepsia.
G. W. Major, B.A., Enterorrhœa Infantum.
Alonzo W. Marston, Circulation of the Blood.
J. H. Mathieson, Surgical Cases.
F. H. Mitchell, Scarlatina.
C. J. Rattray, Venereal Diseases.
T. D. Reed, Pneumonia.
J. A. Reid, Vivisection.
W. G. Ross, Typhoid Fever.
R. Stevenson, Post Partum Hæmorrhage.
F. Warren, Debility.
J. F. S. Webb, Neuralgia.
H. P. Wright, Intermittent Fever.

Of the above-named gentlemen, four have not completed their twenty-first year, and cannot therefore receive their diplomas at the present convocation. Their names are Messrs. Locke, McConkey, Warren, and Wright. They have, however, passed all the examinations, and fulfilled all the other requirements, and only await their majority to receive the degree.

The Medical Faculty prizes are the Holmes Gold Medal, awarded to the student who takes the highest marks in the aggregate of primary and final graduation examinations, and Thesis; and two prizes, one for the best final, and one for the best primary examinations.

The Holmes Medal was gained by John H. Mathieson, Embro, O.

The prize for the best examination in the final branches was awarded to H. P. Wright, Ottawa, O., and in the primary branches to T. Kelly, Durham, O.

The gentlemen who, after the prizemen, passed the best examination in the final branches, were Messrs. R. A. Stevenson, T. G. Johnson, W. Clarke, B.A., A. W. Cattanach, C. F. A. Locke, W. G. Ross; and in the primary branche, H. Allen, L. T. Marceau, G. A. Starke, A. A. Browne and W. Copeland, in order of merit.

PROFESSORS' PRIZES.

Zoology—Prize, M. D. Stark.

Practical Anatomy—Senior class prize, J. Hils; junior class prize, Messrs. J. B. Comeau and Ellison, equal. Senior class deserving honorable mention, Messrs. Alguire, Kitson, Carmichael, Ward; junior class deserving honorable mention, Messrs. Chevalier, Young, Rattery and Molson.

Practical Chemistry—Prize, C. Sheppard.

The graduates were then called up, and after the oaths had been administered by Dr. Craik, the ceremony of capping was performed by Dr. Dawson, Principal, who presented each with his diploma.

Dr. Stevenson then delivered the valedictory address on behalf of the graduating class.

Professor Fenwick addressed the graduates in Medicine and Surgery on behalf of the Faculty. This address will be found among our original communications.

After the proceedings of the Law Faculty, the benediction was pronounced by the Rev. Professor Cornish and the convocation adjourned.

COLLEGE OF PHYSICIANS & SURGEONS OF ONTARIO.

Written Examinations for the year 1871, beginning Tuesday, April 4th, at 9 a.m.

CHEMISTRY. Dr. Sangster.

State clearly the course of the Electric current in a galvanic battery, and which is the positive and which the negative Electrode.

Describe the Thermometric scales, and state how readings in one may be reduced to equivalent readings in the others.

Describe the nature, sources, properties and uses of ozone, also mode of detecting its presence and amount.

Distinguish between colloids and crystalloids, giving examples.
Give general rule for calculating the Sp. gr. of gases of known composition.
Give brief synopsis of the chemistry of Fe. and its compounds.
Distinguish between Monads, Dyads, Triads, &c., with examples.
State the differences between Rectified Spirits, Proof Spirits, and absolute Alcohol, stating how the last may be obtained. Give the name and composition of a few of the Conatomic Alcohols of the series.

ANATOMY. Dr. Sullivan.

How would you expose the fornix? and describe it.
Trace the 3rd division of the 5th nerve from its origin, its branches, and sum up the parts supplied.
Name in order the parts exposed in removing the Trapezius Muscle.
How are the portal and internal Jugular veins formed? course and relations.
Describe the iris, membrana tympani and Velum interpositum.
Describe the duodenum, its relations; with vessels and nerves supplying it.
Dissect the plantar arch.

PHYSIOLOGY. Dr. Covernton.

What are the conditions necessary for the perception of taste? What nerves exercise the special sense? Describe their origin and distribution, and give a brief account of supposed mechanism.
Describe the auditory apparatus, origin and distribution of terminal filaments of auditory nerve, also functions of external and middle ear and Labyrinth.
Origin, distribution, function and inter-relation of great sympathetic with cerebro-spinal nerves.
What are the functions of medulla oblongata and mesocephalon as nervous centres?
Arrange the cerebral nerves according to their several functions, viz.: nerves of special sense, common sensation, motion, and mixed nerves.
Relate the peculiarities of the fœtal circulation.
Where are the Wolffian bodies situated and what are their functions?

MATERIA MEDICA. Dr. Tuck.

Name the chief medicinal agents classified as diuretics, state the purposes for which they are employed, and write a prescription in full that will have a direct diuretic action.
Give the medicinal properties, uses, doses, and modes of administration of Iodine, Belladonna and Aconite.
Name the pharmaceutical compounds of Lead, their uses and doses, poisonous effects and antidotal treatment.
Distinguish between narcotics and hypnotics; anæsthetics and anodynes, with examples of each and their peculiar physiological effect.

TOXICOLOGY. Dr. Sweetland.

What is a poison?
What are the symptoms of arsenical poisoning? Give the antidotes and reason why they are antidotes.
Give tests for corrosive sublimate.

Contrast the symptoms of poisoning by opium with those of apoplexy and intoxication.

What treatment would you adopt in narcotic poisoning.

In a case of suspected poisoning, what precautions would be necessary to observe in making post-mortem examination?

BOTANY. Dr. Cornell.

What is Botany?

Of what does the vegetable kingdom consist?

What does the term "plant" imply?

Are there any examples of plants growing without being attached to any fixed body? if so, give examples.

Are there any plants endowed with sensibility? if so, give examples.

What analogy is there between plants and animals?

What important position does the vegetable kingdom occupy?

Is there constantly any reciprocity of favors going on between the vegetable and animal kingdoms? if so, give examples.

SURGERY, other than operative. Dr. Lizars.

Describe the causes, symptoms and diagnosis of lumbar abscess.

Describe causes, differential, diagnosis and treatment of orchitis.

Describe the diseases which may demand castration.

What are the diseases which may affect the antrorm of higmore?

Describe the symptoms of membranous croup and cases in which trachœotomy is justified.

SURGICAL PATHOLOGY. Dr. Field.

What are the four principal conditions necessary to the normal nutrition of parts?

What are the two chief forms of atrophy? Describe an atrophied muscle in each form.

Describe the pathological changes that take place in the formation of an abscess also the process of repair or filling up the cavity produced by the discharge of pus.

Enumerate the products of inflammation that exude from the blood-vessels of inflamed parts.

In subcutaneous injuries does extravasated blood take any part in the reparative process? if it does, in what manner?

is the nominal mode in the repairing of fractures by ensbreaking or intermediate lattus? Describe the reparative process in fractures.

What experience in pathological conditions between dry and moist gangr Give causes in both forms.

OPERATIVE SURGERY. Dr. Lizars.

Describe two or more methods of vaccinating a child, and the changes that may be expected to occur if the vaccination is successful.

Describe the operation for deligation of the subclavian artery in its external third, the structures to be divided and the parts to be avoided.

Denote the different degrees of rupture of the perineum (female) causes and modes of operating for the relief thereof.

Describe the usual cause of vesico-vaginal fistula and describe the operation for its relief.

Describe Perrigoff's modification of Syme's operation at the ankle joint.

Describe the operations of Iridectomy.

Describe the operation of resection of the knee joint, and mention the cases in which it would be most likely to be successful.

A child is brought to you with double harelip and cleft soft palate, when should you attempt to relieve it? and the reason for selecting the period, and describe the operation that would be necessary.

Operative Midwifery. Dr. Hope.

If the fœtus and pelvis are duly proportioned, but the position of the child unpropitious, what instruments should be used to restore the lost relation of position?

Give three cases where the use of the forceps is indicated, and describe the proper position of the patient for the operation, the manner of applying the instruments and of making extractive force.

Describe a case where craniotomy is indicated and the manner of performing the operation.

Give diagnosis and treatment of a case of epileptic puerperal convulsions.

State diagnosis and treatment of prolapsus of the cord.

Midwifery, other than operative. Dr. Hope.

State some of the signs which show that labor has commenced.

How would you distinguish true and false pains?

Into how many stages is labor divided? Describe the several stages.

Describe the first and second positions of the head.

What is the best position for delivery?

General Pathology. Dr. Wright.

History of Tubercle—

What conditions form passive congestion? What are the structures involved and what are the general rules for treatment?

Surgical Anatomy. Dr. Sullivan.

What is the relation of the parts passing beneath the anterior annular ligament of the wrist joint?

What parts are divided in excision of the elbow joint?

Give course and coverings of femoral hernia, where the stricture generally occurs, and the dangers likely to be encountered in dividing it.

How would you perform Symes' operation? and mention in some order all the structures divided.

Give course and relations of internal maxilary and obturator arteries.

Medical Jurisprudence. Dr. Campbell.

Give signs of death and give the order of the phenomena by which death is recognized.
Distinguish between wounds inflicted before and after death.
How are stains of human blood recognized?
How far may concussion of the brain be distinguished from intoxication?
Give the signs of pregnancy.
Give signs of recent delivery.
Describe the hydrostatic test in infanticide.
Give definition of insanity.
Different forms of insanity.
How can fevered insanity be recognized?

Practice of Medicine. Dr. Wright.

What are the symptoms of pneumonia in the adult, its several stages and their pathological conditions, the prognosis and treatment?
What circumstances are necessary to the production of malaria? What diseases does it give rise to? How would you prove the existence of such a cause of disease? What characters have they in common? and what effects follow their long continued influence?
The symptoms of acute and chronic Bright's disease, the rules for the detection of albumen and their fallacies, prognosis, and treatment.
What diseases of the chest have increased resonance on percussion? In what is percussion unaffected (or only slightly); and in what is it dull and what is it flat? and what value is percussion as a means of diagnosis, and how is percussion performed?

Sanitary Science. Dr. Carson.

What is Sanitary Science?
What sanitary measures should be enforced by the public authorities at all times?
What measures should be adopted in anticipation of an epidemic of cholera? In small pox?
How far may the endemic diseases of Canada be prevented, and in what way?
What are the ordinary impurities of drinking water, and how may they be detected and removed?
In making out a dietary scale for a jail or asylum what proportion of nitrogenous food should be daily allowed for each inmate?
Give an example of a daily ration for an adult prisoner on the cheapest scale compatible with health.
What is the minimum cubic span that should be allowed to each bed in an hospital or barrack?
Name some of the ordinary disinfectants and how they are supposed to act.

SUCCESS OF A McGILL COLLEGE STUDENT.

We have much pleasure in announcing the success of another Graduate of McGill College, in Great Britain.

G. W. BLIGH, M.D., C.M., L.R.C.S.E., and late Assistant-Surgeon in the United States Army, has received the appointment of House Surgeon to the Kidderminster Infirmary, one of the best appointments of the kind in England.

His election and appointment, which took place on the 8th of December last, and resulted in an unanimous choice, was contested by a large number of candidates, among whom were many able men who had held good surgical appointments in different parts of England, including two ex-house surgeons of Charing Cross Hospital, and one of University College, London.

This institution, although styled an Infirmary, is in reality an hospital, although out-patients are attended at their homes, when too ill to be removed, or unable to be admitted into the Institution. A very fine new building is in course of erection, the memorial stone of which was laid last spring by the Countess of Dudley, and will be completed and ready for occupation by the end of May next. It is fitted up in the best style of art, with all the latest hygienic improvements and detached fever wards, &c., &c.

Dr. BLIGH'S professional opportunities have been of the very best kind. The late fratricidal war in the United States of America opened a splendid field to young surgeons, of which he was not slow to avail himself. The influence and interest which he commanded secured him the greatest respect and consideration of many of the leading surgeons of the U.S. Army; and his taste, inclination, and mature judgment—then a very young man not twenty-one years of age—soon placed him in the coveted position usually assigned to older and more experienced hands—operating surgeon. He was sent to the front, where he laid the foundation of his future successful career. His field and hospital operations count by hundreds, and that of excision of the shoulder joint he has performed eighteen times in that service. His testimonials from the U.S. Army form an honorable and bright record, and are the surest vouchers of his future distinction. We wish him the success we are confident awaits his superior attainments and abilities, notwithstanding his extremely retiring disposition.

Dr. BLIGH is a nephew of Dr. MARSDEN, of Quebec, by whom he was educated, and under whom he studied. The latter gentleman was

in addition to his other professional honours, admitted as a Corresponding Fellow of the "Edinburgh Obstetrical Society" on the 13th of July last, on motion of Dr. C. BELL, the President, seconded by Dr. KEILLER.—*Communicated.*

THE PROFESSION IN TORONTO.

The profession in Toronto met in considerable numbers on the 8th of March, and passed a series of resolutions on the existing state of medica matters in the Province of Ontario; the two following were the most important:—

3rd. "That we will not support any candidate who will not agree to modify the law under which the profession of Ontario is at present incorporated, at least so far as to bring its Council and Examining Board in conformity with the provisions of the contemplated Medical Act for the Dominion of Canada."

4th. "That we further urge upon medical men the desirability of requesting candidates to advocate a repeal of the Ontario Medical Act, which unites us with persons known as Homœopaths and Eclectics."

We need hardly add that we cordially endorse the action of our brethren in Toronto, and sincerely trust that the stand thus taken may influence at least some of the recently returned members. If the profession of Ontario, however, really wish to place themselves right before the medical world, they must act unitedly.

PRACTICE FOR SALE.

Any young medical man, desirous of at once entering upon a good country practice, where there is no opposition, is referred to our advertising columns. We know the medical man who offers his practice for sale, and are aware that ill health is alone the cause of his relinquishing it.

We trust that our Canadian Medical Association is not going to be unrepresented at the forthcoming meeting of the American Medical Association, which takes place in May, at San Francisco, California.

Medical News.

Dr. N. G. Ordway, of Portland, Maine, who was sued for malpractice in the matter of an operation performed upon a patient's hand, has received a verdict in his favor on the singular defence, as reported by a local paper, "that the ether used in the operation affected the physician so that he was unconscious of what he did."

DEATH FROM CHLORAL HYDRATE.

Dr. George G. Needham reports in the *Journal of Psychological Medecine* a case of fatal cerebral congestion following the administration of Hydrate of Chloral to a married woman, aged 50 of hysterical diathesis, who had suffered for some two years with symptoms of mental derangement, consisting of distressing "nervousness," fear of impending death, hesitation, suspiciousness, etc. Ophthalmoscopic examination showed an enlarged and tortuous condition of the retinal vessels. In October, 1870, the loss of a relative threw her into a state of much excitement, for which she took, on October 19th, 115 grains of bromide of potassium. On the 21st, chloral hydrate was prescribed in thirty-grain doses, of which she took six, as follows:—On the 21st, at 5.30 p.m. and 11 p.m.; on the 22d at 10 a.m. and 3 p.m.; on the 23d, at 1 a.m., 8 a.m., 8.10 a.m., and 1.30 p.m. On the afternoon of the 22d she was sleeping quietly, with a somewhat rapid pulse, and was found in the same condition at two visits (morning and evening) on the 23d. On the morning of the 24th her continued sleep created alarm, and ineffectual attempts were made to rouse her, which were maintained during the day and night. Sulphate of strychnia was thrice injected in doses of one thirtieth of a grain at intervals of four hours during the night. Coma progressed to a fatal termination on the afternoon of the 25th. The autopsy revealed extreme hyperæmia of the pia mater and brain substance. A year before the patient had taken nearly the same quantity of chloral within the same period of time without ill effects. The writer suggests that the previous administration of a long course of bromide of potassium may increase the danger of full doses of chloral.

Treatment of Gonorrhœa with Tannin and Glycerine.—Dr Schuster states that tannin mixed with glycerine at first forms a soft waxy substance, which soon becomes hard and brown, and melts in a moist atmosphere at the temperature of the body. Dr. Schuster has formed small pencils of this compound, which he inserts into the urethra of patients suffering from gonorrhœa. He has found the treatment by means of caustic injections (the abortive method) frequently to fail, and that it occasionally produces violent pain, inflammation, and hæmorrhage. On the other hand, the treatment with slightly astringent solutions cures the gonorrhœa within a period varying from four to seven weeks, but is often followed by a troublesome gleet. The tannin-glycerine rods employed by Dr. Schuster are from three to four inches in length, well rounded at the extremities, and consist of thirty grains of tannin, one grain of powdered opium, and a sufficient quantity of glycerine to form a pastille. These rods are hard in winter and soft in summer. Before their introduction, they should be dipped in warm water. They are to be left for from five to ten minutes in the urethra, and then withdrawn. As a rule they produce no pain. If, however, they be left in for an hour or for a night, more or less pain is caused, and this appears to be due to a combination occurring between the tannin and the mucus or pus, which becomes hard, and acts like a foreign body. Dr. Schuster has had no case of orchitis following the use of these pencils, though he has thought it advisable to recommend the employment of a suspensory bandage, nor has he noticed any irritation of the bladder or prostate. In case of gleet a rod may be left in for a few minutes, and a speedy cure usually results.—*Lancet.*

The German Wounded.—The *Staatszanzeiger* publishes an official summary of the number of sick, wounded, and cured in the German armies since the commencement of the war.

The number of sick and wounded registered by the proper department is 54,450. The convalescents who have returned to their regiments, or have been sent into the interior, number 4,597. The wounded who were discharged cured, including a few invalided soldiers, number 3,868 518 wounded and sick have died in the hospitals. The proportions per cents are—8·44 convalescent, 6·90 cured, 0·08 invalid, 0·95 deceased.—

CANADA
MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Valedictory Address to the Graduates in Medicine and Surgery, Victoria University. Delivered on behalf of the Medical Faculty, by William Canniff, M.D., M.R.C.S.E., Professor of Surgery.

Gentlemen Graduates,—Along the pathway of life we find placed here and there events of more than ordinary importance—events which may change our course in one way or another, or which are as eminences from which we may not only obtain a more extended view, but proceed with greater ease and success. Our whole life is a series of marches, each of which prepares for that which is to follow. The road we travel is like an ascent up a mountain, the summit of which is reached by successively gaining one eminence after another. We graduate from infancy to childhood, from childhood to adolescence, from adolescence to early manhood, and thence to mature life, when the full development of the body and mind is reached. Then, again, the mind graduates in strength and power as days and years add to the stock of knowledge and culture. In education there is ever an upward bent, as the student proceeds from the alphabet and passes one elevation after another toward the summit of his Parnassus. There is a common road which many travel, but there comes a stage in the journey when special routes will be selected. Those who desire to become learned in the law turn into one path; those who seek to unfold the mysteries of nature, in another; and he who would master the science of medicine turns into another, and pursues his course. Whatever be the way chosen, the student will still find a hill to ascend—from the A B C of the science until a point is gained, when he ceases to be a tyro. Then, no longer an apprentice, he is called to discharge the duties of a master-workman.

You, young gentlemen, whom I address to-day, have reached this important stage in your educational life. To-day marks an important event with you. Ceasing to be boys you assume the duties of men. No

longer under pupilage you are now members of the profession of your choice. I congratulate you upon having attained your majority. I congratulate you not merely because you have graduated into manhood and in medicine; but that you do so at such an auspicious period of our country's history. The Dominion of Canada under Confederation has just reached man's estate, and has been clothed with the robes of national power, and endowed with the functions of national life. She has received a diploma to practise the science and art of independent existence; and thus she has commenced to work out the grand problem of national success, just as you have been furnished with authority to work out your independent personal destiny. It is, I say, a happy time to be called to work and act for yourselves, as your country has entered upon the high way of prosperity. As I believe this Dominion will be fully able to meet the expectations of the most hopeful and trustful, so I believe you Graduates in Medicine, of Victoria College, will be found equal to the duties and responsibilities which await you in professional life, and that you will, like your country among the nations of the world, stand among your fellowmen and brother practitioners, at all times honest, just, upright, and inferior to none. But in order to be successful you must not only make use of your present acquirements, you must ceaselessly endeavour to add to your store of knowledge, not of medical lore alone, but of all knowledge which will assist to equip you for the duties of life. Although you now cease to be tyros and pupils under professors, you cannot cease to be students. It is one of the conditions of success in the medical profession that constant application of the mind be practised. The field of book knowledge, and of nature, must be both diligently cultivated.

Upon the elevated ground you occupy to-day, you may profitably look upon the past, and forward to the future, while you fail not to gratify, as you are justified in doing, your mind by contemplating the surroundings of the present. I have no doubt, in the past, during the time you have been engaged in the pursuit of the principles of the science of medicine, you have often experienced hours of hopelessness, of despondency, almost of fear. The ordeal through which you have passed before the College Examining Board, and the Board of the Medical Council, is well calculated to make one thoughtful, and consider whether he can possess himself of the knowledge, the power, and the courage requisite for successful passing. It is a cause of great gratification equally to us all, both teachers and students, that you have not been found wanting. Wanting neither courage nor success. I now speak of the graduating class of Toronto, and I have no doubt the same can be

said of the Montreal class. Out of the Government candidates who recently appeared before the General Board at Toronto, the number from Victoria College was equal to the total number from all the other medical schools in the Dominion. Of your members who presented themselves before the Council Board for final examination, a Board, the members of which consist of representatives from all the medical schools in the Province, and from the profession in all parts of Ontario, not one who had altogether studied his profession at Victoria College failed to pass his examination. And at the same, I believe I am correct in stating that in the primary class, the first five highest on the list for efficiency were from this institution. Having now passed through the long, trying months and years of your pupilage, and having so creditably acquitted yourselves at the dual examinations, you would be less than mortal did you not exult in your successes to-day. On behalf of the University, on behalf of the Medical Faculty of Toronto, and on my own behalf, I again congratulate you. But think not—I must warn you—that the major difficulties of life have been overcome. Your present position but enables you to set out upon the real duties of life. Your present attainments are qualifications which enable you to undertake the most solemn duties that can devolve on mortal man. Your successes to-day clothe you with responsibilities for the future, the magnitude of which cannot easily be over-estimated.

Will you permit me, your old teacher, one who has tried to be, and who will continue to be, your friend, to offer you a few suggestions respecting the duties which await you in the practice of your profession. I have already intimated that although you have now become doctors of medicine, you will have to continue to be earnest, constant students. In the past you have been concerned principally to prepare yourselves for examinations; hereafter you will strive more particularly to be prepared for every emergency in practice. In the past your source of information has been mainly the book and the lecture room; hereafter you will seek more especially to gain knowledge in the contemplation of disease. But while you thus gain personal experience, do not neglect the experience of others. Forget not, nor despise the ancient landmarks, for new and uncertain guides. By all means leave the first principles; but in proceeding take heed to your way that it be a true one. In the application of the principles of the medical science you are now supposed to have mastered, you must exercise all the sense you possess. *Common* sense all the time; *uncommon* sense, provided it be sound, as much as you can command. Aim to be natural, and eschew everything artificial. An air of mystery may suit a certain class of minds; but it is repugnant

to the educated and refined. The relations the physician sustains in life are in many respects singular. Although a private individual, he is in many respects a public man. His conduct, his success, his failures are the constant subject of public comment, and it behoves him to always comport himself with the dignity which belongs to his office. I need hardly tell you that your mission is a noble one. To relieve pain of mind and body, to remove disease and deformity, and to rescue from death, is indeed an excellent calling. And I would tell you to frown down and repudiate the statement sometimes carelessly and thoughtlessly, and sometimes simply, made, that the physician lives upon the miseries of others. This is an unfair, nay, a foul, way of putting the matter. The physician's calling is to relieve, to save, to spare from pain, and from death. He does not cause the pain, he does not create the disease. These come to the people independently of the physician; and often as a result of indiscretion, and in spite of his advice. And should he not live by his calling? Surely he works hard enough, he suffers anxiety enough, he feels responsiblity enough, his own life is uncertain and short enough to entitle him to the bread he thus earns.

At the very outset you will meet with a very trying difficulty, at least most medical graduates do. The chances are that for months, perhaps years, you will have but a limited amount of work to do as a practitioner. This is unquestionably a severe trial. After spending four or five of the best years of your life in hard mental work, and having invested a considerable sum of money in acquiring a profession, it seems very hard to have to wait quietly and patiently for an opportunity to exercise your qualifications and earn the bread of life. This is always a critical period. There is a strong temptation to depart from the noble rules which guide our profession, to obtain practice. But it is better to wait than to seek by unquestionable means the patronage of the public. The tree which grows the speediest is not the strongest, nor the longest to live. Public confidence, to be lasting and sound, is necessarily of a somewhat slow growth. By unseemly advertising, or unjustifiable promises to cure, one may secure an early practice, but sooner or later there will be a reaction. During this period of waiting, there is another danger frequently encountered. With little to do, the mind, after years of activity, becomes tired of inaction, and often seeks unnatural means of occupation and enjoyment. And, too frequently, a course of dissipation is entered upon, of mind and body. In this connection I would recommend to your consideration the advice given by Mr. Haliburton in his lecture to the young men of the Dominion. He argues, with respect to the habit of using spirituous drinks, upon all, to religiously refuse at all times either to

treat or be treated at the public bar. By adhering to this rule much evil would be abated. But, gentlemen, my advice to you is to entirely abstain. You can do without stimulants, and thereby you will escape a danger which has ruined so many of the medical profession. Instead of allowing this time to be wasted or misspent, you should employ it, as I have before said, to add to your stock of general and special knowledge; and in the effort to strengthen the mind in those properties by which close and correct observation and reasoning, so essential to a successful physician, may be cultivated. In addition to those subjects which particularly belong to your profession, you may to advantage make yourselves familiar with some other science or study. The field of literature, of science, and the fine arts, may give you abundant opportunity for increasing your store of information, and for strengthening the mind by pleasant recreation.

In the relationship of professional life you must be just; just to those who employ you, just to yourself, and just to your fellow practitioner. Remember that a great trust is placed in your honour, your skill, your attention. Fail not to deserve this confidence, to respond to the just expectations, so far as you possibly can. But at the same time be just to yourselves. The claims of your practice do not require a sacrifice of health, nor a forgetfulness of comfort. A reasonable public will not expect it. Then you must be just to your fellow practitioner. To do this, I would simply ask you to adhere to the old but everlasting rule—olden, but golden—to do unto others as you would have others do unto you; or, in more modern phraseology, when the reputation of a *confrère* is involved, or called in question—put yourself in his place. The public often seem to delight in bringing medical men into antagonism; and then cry out about doctors differing. It is a safe rule, and just, to offer no opinion upon a case which may reflect upon another, except in his presence, and the necessity for doing even this is exceedingly rare. Always remember that your office is to treat disease to the best of your ability, and not to express your views upon the treatment pursued by another. In cases of consultation be careful to befriend your brother, so far as you truthfully can. Above all, do not, by word or sign, seek to gain popularity by disparaging another. Such conduct is not only dishonorable, but it will sooner or later be visited upon yourself.

Perhaps some of you have sought the honorable position of Doctors of Medicine, not with the view of practising, but for the satisfaction of possessing such qualifications. With such there still rests great responsibilities. There is a lamentable amount of ignorance with the public as to sanitary laws, and the necessity of hygienic measures to secure the

best interests of the public and of individuals. Those of you who may not practice, as well as those who do, can aid much to educate the public mind up to the proper level. Some of you, I hope many, will become independent, and while I trust none of you will degrade the functions of your calling to a mere money-making work, I shall be glad to know that you have something more than barely earned the bread of life. Independence, from whatever source, may lead you to enter political life. To do so is a praiseworthy ambition. I believe that a larger number of medical doctors in our Parliament would be productive of good. I may say I think they are entitled by education and general fitness as much to high positions of trust as their brethren of the legal profession.

Finally, I would enjoin upon you, gentleness; a christian gentlemen is a true nobleman. Whether by the bedside or before the public, do not forget to behave yourselves as gentlemen—as members of a learned and cultivated profession. In kindness of manner, in sympathy, in consideration of the feelings and wishes of others, allow your better nature to prevail. The poor will have claims upon your care, and it is one of the privileges enjoyed by the medical man of being able to fulfil the requirements in acts of charity, of not letting one hand know what the other may do. Again, you will become the repository of family secrets. Those you cannot consider as too sacred. Indeed, reticence at all times with respect to your patients, is most necessary. It is not your business to satisfy impertinent curiosity.

From the suggestions I have made to you it is apparent that your future will be attended with difficulties and cares. These to some of you may seem almost overwhelming, but by adhering to the laws of christian brotherhood, your way will be made easy.

In bidding you good-bye, I may be permitted to say that your *Alma Mater* will ever watch your career with solicitous regard; and in return she will expect a filial attachment on your part. You will, I am sure, be glad to know that the prospects of the Toronto Medical Faculty are most encouraging. The staff, composed of members loyal and true, and with a reputation as teachers in advance of previous years, will be enabled more faithfully to fulfil their promises to the public, than in the past. The college building being hereafter situated in close proximity to the General Hospital, will afford increased facilities for the student to acquire a thorough practical medical education. Lastly, I would strongly urge you to become active members of the Medical Alumni Association, and attend its yearly meetings which take place at the time of the opening of the winter session.

This Association has already been highly beneficial to its members, and by your hearty co-operation it may become increasingly useful.

And when finally you have passed through the remaining journey of life, and the evening sun approaches the horizon, may golden light illumine the sky. May thoughts of the past be unattended with regret as misspent time and energy, and may the future be full of promise—full of those promises made unto the faithful christian.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Meeting held, April 1st, 1871.

Dr. William E. Scott in the chair.

Dr. William H. Hingston read the following paper on "Skin Grafting."

Mr. President and Gentlemen,—A few months ago British Medical Journals chronicled the importation from France, and the introduction into Great Britain, of a new method of treating intractable ulcers, by grafting upon, or imbedding in the sluggish granulations, small pieces of healthy skin taken from some other part of the body. The account was at first viewed with suspicion, for so much had been written on the treatment of ulcers, that it seemed unlikely a new method of treatment, differing from every one which preceded it, should thus suddenly be ushered into existence without any of that premonition usually observed in other discoveries.

Mr. Pollock, of St. George's Hospital, Mr. Cowper, of the London Hospital, and Mr. Lawson, Mr. Dobson, Drs. Barlow, Thomas Wemys Bogg, Vacy Asher, and others, communicated their views and experience, so that it straightway became in its turn *à la mode*, to the exclusion of those other pet subjects which had exorcised medical minds, and had called forth all the resources of a refined and elaborate investigation.

At that time—now some months ago—I had an opportunity afforded me of testing M. Reverdin's statement, for it is to him is due the merit. Two old inveterate ulcers, such as are met with in every hospital—that come in the autumn and leave somewhat better in the spring—were then under my care; indeed, one had been a torment and a rebuke to me for several years, coming with the snow, and going with it in the spring, improved, 'tis true, but with a large unhealed sore still remaining. The other was a still more inveterate case, although this was the first winter he had spent in the hospital. On both I performed skin-grafting, and the following is the history, as furnished by one of my students, Mr. Ward:—

G. H., a pale, and ex-sanguine old man, æt. 72, was admitted into St. Patrick's ward, on 7th February, 1871, for an ulcer on the leg

which, he said, had troubled him more or less for the past twenty-three years. The ulcer, at the time of admission, was deep and spoon-shaped, on inside of tibia, four inches in greatest length and 3¼ inches in greatest width, and was covered with an offensive, unhealthy-looking, greenish fluid; the granulations were few and pale, and the edges of the ulcer were thick and hard. Rest in the recumbent posture, tonics, and good food were ordered, and the local application of one part carbolic acid to forty of water. In a couple of days the ulcer was clean, and the bandage and red wash were substituted. 9th March—granulations were more healthy looking, and the edges were no longer thick-ribbed and indurated; the area of the ulcer had diminished, so that it now measured 3½ by 3 inches.

On the 11th Dr. HINGSTON made two parallel incisions into healthy skin, midway between the ulcer and the knee, joined there by incisions at each end; three small pieces, about the size of a grain of wheat each, were imbedded in the granulating surface—slight incisions having been made to receive them—equi-distant from the edges and from each other, and were held *in situ* by narrow strips of adhesive plaster and a bandage.

13th.—On removing bandage a large quantity of offensive, unhealthy-looking pus, which had been pent up, deluged the sore, and no trace of a graft.

14th.—No trace of graft visible.

15th.—A leaden-white shining speck is visible at site of one of grafts.

16th.—The other two grafts, or the product of them, distinctly visible.

17th.—Specks much increased in size; surrounding edge of cicatrix seems to manifest disposition to close in.

20th.—Ulcer closing rapidly from sides, and the upper graft has reached the advancing cicatrix, and has formed an isthmus with it.

25th.—Two of the islands of new skin are now promontories.

28th.—The three islands have reached the advancing circumference.

30th.—Ulcer entirely healed—except a space about the size of a pea, midway between the three grafts—twenty days after insertion of the grafts.

During the whole period the leg was kept elevated, and the patient was not allowed to leave his bed for a moment.

CASE II.

J. F., æt. 59, was admitted 30th January, 1871, to same ward, for an eczematous ulcer over right tibia, which had troubled him for upwards of six years, a considerable portion of which he had spent at intervals in the Montreal General and St. Patrick's Hospitals. The ulcer was treated in the same manner as the preceding, with some amelioration.

10th of March.—The ulcer is now 2½ inches in length by 2½ in width. Three small pieces of skin, about the size of a grain of rice, were taken from the neighbourhood of the ulcer and inserted, as in the preceding case, and in the same manner, into the granulating surface; small strips of adhesive plaster retained them *in situ*.

14th.—Traces of the skin-graft were distinctly visible.

15th, 16th, 17th, 20th, 25th, 28th, and 30th.—The progress observed was much the same as in the preceding case, but on 30th the ulcer was completely healed, leaving no lacuna as in the former.

In both these cases it was most interesting to see the small, shining islands of skin increase day by day—stretching out towards each other and towards the circumference, the latter now advancing to meet them, till islands became an isthmus in the one case, or joined the mainland and became a promontory in both.

The rapidity of cure was marvellous. I have never seen anything in surgery which interested me more. The ulcers, in both cases, were healed almost as soon as the incisions in their neighbourhood from which the grafts had been taken. No sooner had the grafted centres commenced to grow than the ulcer was observed to heal very appreciably from the circumference, the hitherto stationary circumference extending vigorously towards the central islands; and this, although the patients continued otherwise under precisely the same hygienic conditions.

That the cure is a permanent one, and not liable to those accidents which attend granulating surfaces, may be inferred from the circumstance that a month has now elapsed since the healing process has been completed.

Although the subject is in a measure new, it would seem—

1st. That a healthy condition of the granulating surface is necessary; every attempt at changing the surface of an unhealthy ulcer by skin-grafting having failed.

2nd. That the size of the graft is of no importance, and, taking into consideration the patient's feelings, the smaller the better.

3rd. That skin alone and no adherent fat, should be engrafted.

The method more recently introduced by Mr. FIDDES, of Aberdeen, would seem to simplify this process of grafting. Mr. FIDDES says "it is quite unnecessary to put the patient to the pain of cutting a piece of healthy skin from the body, for the purpose of transplanting it on the sore; all that is necessary to be done," he says, "is to take a long bistoury or razor and shave or scrape off the epidermic scales from the convex parts of the extremities, such as on the outer and convex aspects of the forearms and thighs, and place them on the healthy granulations,"

and then "brushing the scales off the bistoury with a camel-hair pencil," and "securing them *in situ* for three or four days by means of common adhesive plaster."

Mr. FIDDES' plan really appears to me to be more painful and troublesome than the other, but the result may be the same, for the new growth of skin is but the product of cell development—such, at least, would appear to be the view of SCHWANN—that epidermic cells are "nothing more than dried cells having a nucleus in them;" and, Mr. FIDDES, basing his views on the SCHWANN theory, says, "is it not possible that the scales may imbibe serum from the plastic lymph on the granulations and adjacent tissues, and from cells which ultimately go to the formation of skin?" And "the practice of placing epidermal scales on a healthy, granulating sore causes it to heal or skin over more rapidly, not only from the top, but also in the centre of it." The rapid closing in of the circumference of the cicatrix, so soon as the skin-grafting has taken root, is not the least pleasing and surprising feature in skin-grafting. I have no view of my own to offer, but shall only mention those that seem to possess *vrai semblance*.

Dr. HINGSTON then briefly mentioned the views of different writers, and concluded with POLLOCK, "that a tribute of admiration and gratitude is due to M. REVERDIN from the profession, for the boon he has conferred upon surgery, by the introduction of this original method of dealing with large and obstinate ulcers.

Dr. R. PALMER HOWARD contributed his experience on the subject by reading the following

CASES OF SKIN GRAFTING,

IN THE MONTREAL GENERAL HOSPITAL, UNDER DR. HOWARD.

MR. CHAIRMAN AND GENTLEMEN,—Having seen by the notice of the Secretary that the subject of Skin Grafting was to be brought before the Society this evening, I thought it might add to the interest of the Meeting were I to relate some instances in which the process had been employed by myself.

Case 1.—J. M., aged 24 years, was admitted on the 20th December 1870,—and transferred to my care 1st January—the subject of an ulcer upon front of leg, four inces long by an inch wide, which is surrounded by a smooth thin cicatrix, 13 inches long upon the inner side of the member, 8 inches long upon the outer, and about 5 inches broad, and the result of a lacerated wound received in September, 1869, by falling from the platform of an express railway car.

17th January.—The ulcer has been healing very, very slowly, little

reparative power is being exhibited. Two patches of skin taken from the arm were grafted in the ulcer; the layer having the diameter of a green pea upon its upper extremity, and the smaller about half that size upon its lower. An examination of the sore on the third day, (20th January) showed that the larger graft had retained its vitality, but was of a somewhat purplish hue; the smaller, white and moist, resembled a mass of concrete pus.

22nd.—The larger graft has a pinkish hue, as if its outer layer of cuticle had desquamated; the smaller is no longer visible.

On the 27th January, erysipelas attacked the leg and extended up the thigh nearly to the groin, and down the limb to the foot, where a phlegmam formed; the graft, although involved in the erysipelatous inflammation, did not perish. When the erysipelas had disappeared cicatrization began rather slowly around the margins of the upper graft, and the edges of the ulcer also began to exhibit more active healing power, as if the formative process had been stimulated by the engrafted skin. The lower fragment which, since the 22nd January, could not be distinguished from the surrounding granulations by me or the students, although the patient had always professed to be able to recognize it, became again visible, and covered with firm cuticle, and cicatrization began to extend around its margin.

About 14th February the ulcer had cicatrized completely at the side of the grafts, but the central portion, showing very little tendency to heal, the patient requested me to graft again. Two fragments about the same size as the former were taken from the arm, and when examined three or four days afterward, the upper graft was found adherent and alive, the lower one was missing. The bandage and plaster had slipped, and the graft had probably become displaced. A few days later the rays of new growth proceeding from the upper graft, met those developed from the margins of the ulcer on either side, and that portion of the sore was covered with a firm-looking cicatrix.

About the 11th March, as an area of the ulcer about an inch long and three quarters of an inch wide, remained open and healed very slowly, another graft of the size of a split pea, and taken from the arm, was applied to it. Three days later this graft was found adherent, and a week later the centre ulcer had healed.

March 30.—Examined the man to-day, as my quarter's attendance at the hospital will expire to-morrow. The cicatrix formed by the grafting process is much thicker, firmer and less tender-looking than the older cicatrix around it; and, although 72 days have elapsed since the first graft was made, tactile sensation does not exist on the grafts, nor indeed in any

part of the old cicatrix. It is quite perfect, however, in the margins of the original integument where they unite with the cicatrix.

Case 2.—My second case was that of a boy with a large ulcer covering about half the circumference of the upper three-fourths of the thigh and inguinal region, and another about three inches square in the umbilical region. He had been scalded several weeks previously; cicatrization was proceeding but slowly; the discharge was profuse, and the granulations flabby and exuberant—they bled freely when lightly touched.

On the 20th of February I grafted five fragments from the chest, and secured them as in the previous case. Some of them were about two lines in diameter, others half that size.

February 25th.—The graft on the smaller ulcer and three on the larger promise well; one missing.

March 7th.—Only the graft on the smaller ulcer can be seen.

March 17th.—Five similar portions of integument, of the same size as the previous series, and taken from the same neighbourhood, were grafted on the larger ulcer.

March 20th.—Two only of the last grafted visible.

30th.—Only the graft on the smaller ulcer remains visible. It has increased to about three times its original size by the growth of new skin from its edges, and a ray-like process of new integument connects it with a similar outgrowth from the surrounding margin of the ulcer. It has an opaque, white hue. The other nine grafts cannot be discerned.—(Reported by Mr. E. GAVILLAR.)

Case 3.—W. W., aged 42, entered hospital on 9th of March with an ulcer 2 inches in length and one in breadth, situated on the front of the shin. It was surrounded by a large dusky cicatrix which adhered firmly to the subcutaneous tissues; these were indurated and the shaft of the tibia was considerably enlarged in the ulcerated region, as if chronic osteo-periostitis had existed. The ulcer was raised above the level of the surrounding surface, was firm and devoid of granulations, and its edges indolent-looking. It was strapped for a few days with the view of bringing its surface to the level of the adjacent parts, and at the same time stimulating its surface to granulate preparatory to grafting integument upon it.

March 15.—Two portions of skin, each having an area about equal to that of a split pea, were taken from the patient's arm and secured in the ulcer.

20th.—Both fragments in view; of a reddish hue with purplish edges.

23d.—Each graft increasing rapidly at the edges, and now nearly of the diameter of a ten-cent piece.

25th.—The ulcer almost entirely healed. This man was not kept any longer under observation, as the wards were being emptied as much as possible for sanitary purposes.—(Reported by M. ALGUIRE.)

Case 4.—Mary Dillon, aged 50, was admitted on 24th March, 1871, with a burn which she had received on 1st of Oct., 1870, from a candle setting fire to her clothes. The raw surface reaches just above the nipple to within two inches of angle of the scapula, being 15 inches long. Below the clavicle it is about 3½ inches broad, on the shoulder 6 inches, and on the back 5 inches. It extends, also, up the side of her neck. On Saturday, 25th, transplanted seven pieces of skin which were taken from her abdomen; three placed below, and four above clavicle, each about a line in diameter. On 28th March found all pieces looking well; the sore discharges a great deal, has to be dressed every day. March 31st. Grafts all looking well, but one which is not visible. She is, of course, still under observation—(Reported by M. ALGUIRE.)

There are some points of interest in the above four cases of Skin Grafting upon which I will briefly remark :

Mr. Pollock and others have noticed the same temporary disappearance of the grafted portions of skin that occurred in my first case. As Mr. Mason has not done so, it has been suggested that the non-disappearance for a time of the grafts in any of Mr. Mason's cases may have been due to the rather larger size of the grafts which he employed than those Mr. Pollock used. But this explanation is proved not to be correct by my first case, in which a graft having a diameter equal to half that of a green pea ceased to be recognizable for many days and then re-appeared and set up active cicatrization about its edges.

That a healthy granulating state of a sore is favourable if not essential to the success of Réverdin's process has been insisted upon; and the failure of nine out of ten grafts in my second case was probably mainly due to the weak, flabby, and bleeding character of the granulations which covered the ulcer; a condition, by the way, common in extensive burns.

I believe little is yet known as to the usual period at which the transplanted skin acquires tactile sensibility. Mr. Pollock found sensibility absent in the graft nine weeks after its transplantation. It is still absent in my earliest case, although the graft is ten weeks old, and it is inter-

esting to know that in the same case no tactile sensibility exists in the oldest portions of the cicatrix, notwithstanding that probably 17 months have lapsed since their formation.

Mr. Lawson says that in a case of his the grafts acquired sensibility in 10 to 12 days; but I cannot help thinking some error of observation was committed. If the graft be touched too heavily or rudely, the impulse may be easily transmitted through the insensitive skin to the adjacent sensitive textures, and the erroneous influence may be drawn that sensation exists in the graft. This actually happened in my own case. About three weeks after transplanting the first graft in Case 1, I tried whether sensibility existed in the graft, and was told by the patient that it did; yet six or seven weeks later on carefully repeating the experiment in various ways, I found that no sensation existed in either the graft or the cicatrix.

Lastly that remarkable and encouraging circumstance, noticed by other observers, was observed also in some of my cases. I allude to the active manner in which the process of cicatrization started, as it were *de novo* on the margin of the ulcer simultaneously with or soon after the manifestation of that process on the edges of the graft.

April 1st, 1871.

Dr. REDDY asked if one of Dr. Hingston's patients, in whom sensation was good, might not have been mistaken as to the identity of touch.

Dr. HINGSTON replied that he tested the man by means of a sharp-pointed pencil, and he said he felt the pricking sensation distinctly, and described the character of the instrument employed.

Dr. CRAIK said that Paget believed the scooped appearance of old ulcers to be only apparent, and due to everted edges.

Dr. FRANCIS W. CAMPBELL said he had within the last day or two, scraped a number of epithelial scales from his arm and dusted them over the surface of a somewhat extensive ulcer, with a view of testing the value of that method. He was, however, unable to give any result so far.

Dr. TRENHOLME said that in regard to the sense of touch even in normal surfaces, a layer of dead or senseless epitheliam intervened between the object felt and the nerves of the skin, and did not act as a bar to the perception of fine impressions. With regard to the experiment which had been made by Dr. Campbell, from the suggestion of a Scotch surgeon, he thought that, reasoning from the mode in which skin grew, it was a difficult matter to conceive, how epidermic scales scattered

over a raw surface could in any way cause the growth of true skin. The external layer of the *cutis* is composed of cells which have already performed their office, and were in the process of being thrown off. As in the grafting of fruit trees the transplanted bud looses its epithelial layer, and the growth of the new bud proceeds from the germ below the external layer, so it may naturally be inferred that the growth of new skin by grafting occurs in a similar manner; the cells of the deeper layers of the true skin, which are in process of development, being the real origin of the new skin. The application of a blister has in some cases been followed by growth of new skin in the centre of the sore. This he thought was most likely due to the blister detaching undeveloped cells from the skin, which, by some chance, have been retained upon the surface till vital union has taken place, and thus they have become centres for developing new skin. The rapid healing over of the ulcer, when once the grafts have been vitally attached, and little islands of skin have made their appearance, may possibly be due to the fact that these little centres by their growth cause an increased supply of blood to flow to the part, open up larger arterial channels, and also, by this means, diminish the pressure of the edges of the sore, on the small vessels, terminating at its margin.

Dr. CRAIK thought the point was whether nerves were produced in the new tissue itself. Were nerve tendrils developed at the same time as the new skin, and did they become connected by nerve filaments with surrounding tissue.

Dr. HOWARD said in his cases the tactile feeling was very imperfect, even after a very lengthened period. Might this not be explained by the fact that he took the grafts from distant parts. In Dr. Hingston's cases he noticed that they had been taken from the neighbourhood of the ulcers, and as we know that similar parts of the body have similar structure, this fact might account for the increased sensibility in his case.

Dr. HINGSTON inquired as to the condition of the skin which grew from the circumference of the ulcers in Dr. Howard's cases?

Dr. HOWARD said it was very much like the grafts—it was thin. In one case, a long ulcer—the skin which formed on the long axis, was firmer than that which formed transversely.

Dr. HINGSTON asked if Dr. Howard did not think it was from the cells, and not from the skin, that the propagation took place.

Dr. HOWARD replied that as the grafts had in nearly all the cases disappeared in a few days, it could not be from the epidermic cells that

the reproduction occurred. It must, therefore, he believed, be from the vital portion of the skin.

Dr. HINGSTON said if his observations had been confined to his first case, he would have said that reproduction took place from the skin, but in his second case the grafts entirely dissolved, and were lost sight of. In a few days, however, they were again recognizable. Perhaps Pollock and Tibbs, who hold opposite opinions, might be right after all.

Dr. HOWARD said that in his first case, one of the grafts retained its original appearance, and was never lost sight of. In others, the grafts entirely disappeared, but eventually turned up again, and cicatrization took place from their bodies. He thought it not quite fair to argue that because the grafts disappear and re-appear that it was the epidermic scales which play the important part. He would rather argue for an opposite view.

Dr. KENNEDY asked if areolar tissue was included in the grafts?

Dr. HINGSTON: In his grafts a portion of areolar tissue was included. He gave chloroform while taking off the grafts.

Dr. HOWARD said his patients had loose skins, and a certain amount of areolar tissue was included, not more, however, than it was possible to avoid.

Dr. CRAIK asked whether Dr. Howard or Dr. Hingston had paid any attention to the placing of the pieces of skin in the same relative position with reference to the axis of the body as they had previously occupied, as he thought that the grafts would be much more likely to recover their functions rapidly if placed in a corresponding position in their new sites than if inverted. With reference to the particular part of the skin most concerned in the process of reproduction he was inclined to think that the intermediate layer, "basement membrane," had more to do with it than either the epidermic or the fibro-cellular layer. In the cases cited, both the epidermis and the fibro-cellular layer had been observed to disappear, and yet the graft was not dead, but after a time re-appeared and propagated itself vigorously. Under these circumstances it seemed most likely that the power of reproduction resided more particularly in the primary or basement membrane than in either of the other structures.

Dr. HINGSTON confessed that he did not pay any attention as to placing the grafts in a similar position to that which they occupied in their original site.

Dr. HOWARD stated he likewise had not paid any attention to this matter, and that although the theory of Dr. Craik was very ingenious, he hardly thought it correct.

Dr. FRANCIS W. CAMPBELL mentioned the Taliacotian operation as opposed to the theory advanced by Dr. Craik.

Dr. HOWARD mentioned that one of his cases, who had good sensation on the restored part three weeks ago, had a few days previously, when examined, no sensation whatever. He could not account for this, unless, indeed, in the first instance he had been deceived.

The thanks of the Society having been tendered to Drs. Howard and Hingston for their interesting papers, the Society adjourned.

MEETING HELD 15TH APRIL, 1871.

Dr. GEORGE W. CAMPBELL, President, in the chair.

Dr. HENRY HOWARD, of St. John's, P. Q., who was this evening to have read a paper upon "Ventilation," was unable to attend; he, however, sent forward his communication, with a request that it might be read to the meeting. Several members having expressed a desire that the reading of the paper should be postponed till Dr. HOWARD was able to be present—this was agreed to, with the understanding that the Society should be called together upon any evening which would ensure the attendance of Dr. HOWARD. The time of the meeting was passed in listening to the following very interesting cases:—

DR. REDDY exhibited to the Society a specimen of unreduced dislocation of the shoulder with the following history.

W. L., aged 67, was admitted into the Montreal General Hospital, on the 5th April, 1871, suffering from senile phthisis with great emaciation and debility. On his examination it was discovered that there was an unreduced dislocation of the head of the right humerus. It appears that a little more than two years ago he had been working on a scaffold, serving masons, when the structure gave way and he was precipitated to the ground, fracturing his left leg and dislocating his right shoulder; he was taken home and placed under the care of a surgeon for treatment of the fractured limb. Unfortunately, the injury sustained by the shoulder was entirely overlooked and consequently no attempt at reducing it was then made. It was only after the lapse of several weeks when he found that the arm remained useless and immoveable that he first himself was aware of the dislocation, and then the efforts to reduce, which were made, entirely failed. At the present time, considerably more motion had been obtained than could have existed in the recent dislocation; the arm could be abducted from the side to the extent of about four or five inches, while rotation on the axis of the humerus could be performed through a pretty considerable area

of a circle. Owing to his emaciated condition, the head of the bone could be quite easily felt forming a rounded prominence immediately beneath the coracoid process, which was to be seen projecting just above it. Of course there was, as we should expect, great wasting, indeed almost entire absence, of the deltoid and pectoral muscles.

The patient died from exhaustion on 8th April, 1871, and the following day the entire scapula and humerus were removed. The appearances presented by the new joint and its surroundings, which are well represented by the accompanying wood cut, were as follows, viz:—the head of the humerus was thrown forwards and upwards and rested above against the coracoid process; the emptied glenoid fossa had become almost flat, and the cartilage on its face could hardly be recognised as such. To the inner side of this fossa is seen the receptacle formed for the head of the bone; it is about the size of the original glenoid cavity and is surrounded by small exostoses which project around it in almost all directions, tending of course still further to limit the amount of motion to be obtained. At one place the friction of the two opposed surfaces has produced complete *eburnation*, the bone there being white, polished and extremely smooth. Distinct new cartilage covered the adventitious joint and it seemed to possess a synovial membrane as well.

He was induced to bring this case under the notice of the society owing to the rarity with which an opportunity occurs for examining the

parts in similar cases. The Dr. remarked upon the completeness of the formation of the new joint in all its points, although from the excessive action in its neighbourhood and from the very nature of the position of the bones, it was impossible to have free motion. He deprecated the attempts sometimes made by surgeons for the reduction of dislocations of very old standing: he had occasionally seen most disastrous consequences follow this procedure, and even when the bones were replaced, in many other instances it was found that the functions of the joint were entirely lost. He was therefore in favour of using great caution in resorting to forcible measures for the remedy of luxations which had occurred long previously.

Dr. HOWARD remarked that from the long stalactiform growths, if he did not know the history of the case, he would infer that it had originally been an instance of partial dislocation from chronic rheumatic arthritis.

Dr. G W. CAMPBELL said it was to the credit of surgery that such specimens were exceedingly rare, in our own museum unique; he spoke also of the osseous projections in the neighbourhood of the new articulation, remarking upon the singular deformities sometimes produced by these sub-growths occurring near fractures and dislocations, and instancing a remarkable case of fracture of the neck of the femur, where, after a time, there was complete inversion of the toes instead of the usual condition of eversion.

Dr. ROSS, house-surgeon of the Montreal General Hospital, next exhibited the lungs of a patient who had died in that Institution from Empyema the day before. The right lung was entirely collapsed, very small, and covered with thickened pleura; a section was dense and uniform, the cut surface showing no tubercle. The left lung was crepitant throughout, showing signs of old cicatrical puckerings on the extreme apex; on dissection it was found to be studded with extremely small, white miliary tubercles, equably distributed from base to apex; similar tubercles were also found in the capsules of the kidneys. At the post-mortem examination about five ounces of mixed serum and pus were removed from the cavity of the right pleura.

Dr. HOWARD stated that the patient, a man of 69 years of age, had been admitted into the Hospital, under his care, on the 11th February last. At this time there was wooden dulness over the whole of the right side of the chest, together with 3 inches of enlargement. Respiratory sounds were nearly absent over this area, with the exception of the space from the clavicle to the nipple; here there was to be heard blowing breathing, feeble and remote. This phenomenon he looked upon as very

singular, and one that might lead to the supposition that there was consolidation of the lung; he believed it was in reality the air-sound from the primary bronchi in some obscure manner conveyed thus to the surface. Over the left lung the percussion was hyper-resonant, and the breathing exaggerated; still the lung was found post-mortem loaded with miliary tubercle. It is an acknowledged fact that we are frequently unable to diagnose the presence of miliary tubercle from any known physical signs. This patient was put by him at first upon Iodide of potassium (counter-irritation) and good diet; this was persevered in for six weeks, and no perceptible diminution having occurred in the fluid, he was tapped, and eighteen ounces of limpid serum were draw off; air then entered in small quantity, and the canula was immediately withdrawn: this led to the belief that the lung was bound down, and thus could not re-expand when permitted to do so by the withdrawal of the fluid. After this a clear note was got to the third rib, which afterwards extended an inch lower, but soon the dulness again extended. He then got Pil. Addisonii, two, twice a day for a week, when he was tapped a second time, with the result of getting only eight ounces of still limpid serum; air entered, but very slightly, and that only during efforts at coughing. After this his health soon began to fail, and hectic and cough set in, and he died on the 14th April. Dr. HOWARD drew attention to the peculiar points in this case, and the nature of the problem it offered for solution. It certainly was a case of pleurisy with effusion, together with acute tuberculosis, in an old man of 69 years of age. Niemeyer and his school would say that the pleurisy was the result of the presence of tubercle, but he (Dr. H.) could not positively agree with this, but was more inclined to look upon it as a case of sub-acute pleurisy in an old man, which, in consequence of the patient's feeble vital powers, had ran a chronic course, and ended in extensive effusion, and that the development of the tubercle was subsequent to this. Dr. H. remarked that he had once tapped the chest of a young man six times; the three first times the fluid was clear and limpid, but it afterwards became purulent.

Dr. CRAIK asked whether the tapping in this case had been performed to relieve urgent dyspnœa, or whether only to give the lung a chance to expand?

Dr. HOWARD was only sorry he had not tapped after a fortnight, instead of after six weeks—there was no dyspnœa, but it was done in accordance with the well-authenticated surgical rule, to relieve the lung before it should become irremediably compressed.

Dr. HINGSTON agreed with Dr. Howard that the tubercle did not pre-

cede the pleurisy; he would ask what were Dr. Howard's views with reference to mercury as an absorbifacient.

Dr. HOWARD would be loath to give a scientific explanation of the *modus operandi* of Addison's pill in such cases, but, practically, was fully convinced of its power in promoting absorption.

The President agreed fully with the last statement, and would say that the *combination* in this prescription seemed to be what produced the desired effect; for neither the mercury, nor either of the other ingredients —no matter how pushed—could produce a similar effect as with the three together.

Reviews and Notice of Books.

A Practical Treatise on the Medical and Surgical Uses of Electricity. By GEORGE M. BEARD, A.M., M.D., Fellow of the New York Academy of Medicine, and A. D. ROCKWELL, A.M., M.D. With one hundred and two illustrations. New York: William Wood & Co., 61 Walker Street. Montreal: Dawson Brothers. 1871.

That electricity is capable of being used as a powerful agent for good in certain pathological conditions, no clinical observer of any experience will, we think, deny; but whether they will be willing to endorse all the views set forth in this treatise is quite another matter, and one with regard to which we are in much doubt. We admit that experience is teaching us that the electric current may be used for more than local stimulation, and that the instances recorded in the volume before us have tended much to strengthen our views on this subject. Still, there is throughout the work a tendency to prove electricity useful in almost every complaint, a fault which is common to all who are styled Medical Electricians. We need hardly say that this fault is one which detracts much from an otherwise meritorious book, and tends to prevent a regular medical reader from taking an honest view of the work. We feel, however, that it contains much that is deserving of commendation, and that not a few practical hints may be gathered from its pages.

On the Wasting Diseases of Children and Infants. By EUSTACE SMITH, M.D., London. Second American Edition. Philadelphia: Henry C. Lea, 1871. Montreal: Dawson Brothers.

Upon a former occasion we drew attention to the merits of this work, and the appearance of a second edition within so short a period is a convincing proof that our estimation of it was not undeserved. The class of diseases treated of, are unfortunately of too common occurrence, and too

little understood. A thoughtful perusal of this work cannot fail to impart much practical information, gathered during a long experience by a thoroughly practical observer. It also cannot fail to arouse an increased interest in chronic infantile diseases—a class of affections full of sad interest from their frequency and fatality.

Body and Mind. An enquiry into their connection and mutual influence, specially in reference to Mental Disorders, being the Gulstonian Lectures for 1870—delivered before the Royal College of Physicians, London, by HENRY MAUDSLEY, M.D., London.—New York: D. Appleton & Co.—Montreal: Dawson Brothers.

The wonderful progress which Psycological Medicine has made within the past quarter of a century, has been such as to entirely revolutionize the treatment of the Insane. Instead of Asylums being prison houses for the confinement of those mentaly diseased they are now in reality Hospitals, where those so afflicted are treated not only humanely, but physiologically and therefore rationally. The savage barbarities of former timeshave, thanks to enlightened medicine, passed away, and insanity, regarded as a disease, freed from the prejudices and isolation which surrounded it, has come to be regarded as a part of general medicine, and with it will, we trust, go steadily forward in the march of improvement. Of those who of late years have contributed much to this object, no one has done more than the author of this little book. Possessed of a mind thoroughly capable of grasping the entire subject, comprehensive though it be, he has laboured steadily and perseveringly, to place Psycological Medicine in the true position which it should occupy—that of being a strictly medical study, and its treatment a branch of medical practice. The lectures contained in this volume are three in number, and are well worthy of a careful persual of all who take an interest in this subject. They are written in a style—terse perhaps—yet pleasant, and shew the intimate relationship which exists between the body and the mind. It will amply repay the close attention which its persual demands.

PERISCOPIC DEPARTMENT.

Surgery.

CAUSE OF GONORRHŒA.

Prof. W. A. Hammond, of New York, in his "Lectures on Venereal Diseases," asserts his belief, which he supports by cases, that gonorrhœa may be introduced either by the virus of hard chancre, or by the virus

of soft chancre, when the chancrous matter has been deposited for a certain length of time upon the mucous surface, without any abrasion being present, or without any chancre following. Vaginitis and urethritis may be induced by other causes, but true gonorrhœa owes its origin to the contagion of chancrous pus alone. He also believes that the gonorrhœa induced by the matter of a hard chancre will be followed by and may impart constitutional syphilis, just as if a chancre had been present. Dr. Hammond's opinions in this respect coincide with those of Hunter. The experiment of Ricord appeared to have finally decided the question that gonorrhœa was incapable of producing syphilis, and that they were totally different disorders. But the conclusions arrived at by Dr. Hammond are :

"1st. That the virus of an infecting chancre, when deposited on a secreting mucous surface upon which there is no solution of continuity, may give rise to gonorrhœa unattended by chancre, but which is syphilitic in its character, and capable of producing constitutional disease.

"2nd. The matter of such a gonorrhœa is capable of causing an infecting chancre, either by natural or artificial inoculation, which chancre is followed by constitutional syphilis."

Similar propositions are made about soft sores.

The observations and practical remarks of Mr. Morgan, of Dublin, confirm very much these observations. His experiments prove that the product of inoculation from a vaginal discharge in a constitutionally infected woman is the characteristic pustule and non-infecting chancroid sore, which is capable of propagation in this form from one individual to another; indeed, it seems pretty certain that contact with a gonorrhœal or vaginal discharge in a case of constitutional infection may produce a gonorrhœa or a soft sore if there was any abrasion of surface. Thus, a soft sore is not very unusually associated with gonorrhœa derived from the one contact; but the conception of gonorrhœa and a hard sore is very rare indeed. The subject is daily becoming a more important one, and the observations of Mr. Morgan, in Dublin, confirming by direct experiment the remarks of Dr. Hammond of New York, are entitled to careful consideration.—*Dublin Medical Press.*

FRACTURE OF THE CLAVICLE.

BY PROFESSOR LEWIS A. SAYRE.

The patient, a man of about thirty-five, a month ago was carrying a trunk, and fell with and upon it, fracturing his left clavicle at the junction of the outer and middle thirds. During the month he has been treated with bandages (including adhesive plasters?) which have been very tightly and sedulously applied—so tightly, that the marks of the

recently removed bandages are still visible. Most noticeable is a mark, as of a cord, under the left axilla, with a scar over the acromion of the right side, and galled places under the left arm. He has now imperfect union, with deformity, a large deposit on the anterior portion of the bone, caused by inflammatory action excited by the rubbing together of the two fractured ends.

Putting the knee between the scapulæ, and, grasping the upper part of the arm, drawing the shoulders backward and outward, the adhesions are broken up, the patient "hearing something crack." It is now nearly an inch from the top of the lower and outer fragment to the anterior face of the upper. When the ends are in opposition, there is still a considerable prominence at the seat of fracture caused by ossification of exuded plasma.

It has been said that, inasmuch as deformity necessarily results, no matter what bandages are used, how well applied, how admirably adjusted, or frequently re-adjusted, and since the deformity is as great with treatment as without—it has been held that it is useless to keep him in torture and encased in harness. But *I know* the contrary; union can be had without the slightest deformity. It can be reduced so as to show no deformity: if you can hold it in proper position, it is your duty to stay there and hold it until union occurs, unless you can contrive some appliance which will take the place of your hold. Use your own or any other contrivance, and, by the way, patented apparatus, together with the patentees, should be buried in oblivion by all honest-minded men.

Again, the indications, keeping the shoulder upward, backward and outward, are very well fulfilled, by keeping the patient constantly supine, with the shoulder of the fractured side unsupported, a pillow being placed between the shoulders. But this is impracticable, because lying four weeks in the horizontal position on the back would wear out the patience of Job; besides, such a degree of nervous irritability will be produced as will destroy the action of the digestive organs, and there will not be enough material made by the stomach to plaster the fragments together. We want, not medication, but supply; we must have the digestive organs, and consequently the general health, in good condition. Hence, all plans which permit of ordinary exercise are better than those requiring confinement to the house.

His former bandages have been applied so tightly as to interfere with the venous current of the arm. Hence we will have to apply a bandage to the whole limb, which, especially the hand, is now blue from venous congestion. One roller should, at the elbow, make several turns, in the

form of a figure-of-eight, so as to allow free motion of the joint. [This bandaging of the arm is, in general, unnecessary.]

For the bandaging proper, take a piece of adhesive plaster, of about four inches wide, and apply one end to the inner side of the belly of the biceps, about the middle of the humerus; then carry it in front of the arm and around the trunk behind, coming around the right side and beneath the nipples, or mammæ, as the case may be. The plaster is not to completely encircle the arm, as that would girdle the circulation. The arm is now about parallel to the axis of the body, and *cannot be brought forward*. Next, a small compress is to be pressed up in the axilla. A second strip of adhesive plaster, as wide as the first, passes from the right shoulder around and across the back behind the lower part of the arm and beneath and without the elbow. By now pulling the loose end of the bandage forward, inward and upward, the first bandage retaining the centre of the arm fixed in position as a fulcrum, the shoulder is carried upward, and on the principle of the lever, backward and outward, the *point d'appui*, in the centre of the arm, in conjunction with the axillary compress, securing the fulfilment of the indications. On making this traction the deformity, in ordinary cases, wholly disappears, to reappear the moment it discontinues. The same second plaster is then to be carried from the elbow, across the outer side of the forearm, flexed at an angle of about forty-five degrees on the arm, across the breast and back to the right shoulder. The ends of the fragments, instead of being an inch asunder, are now almost in apposition. "It doesn't hurt now, does it?" Patient (very emphatically.)—"No, sir." A third piece of plaster passes around the wrist, suspending it, and then both ends pass over the seat of fracture, retaining a small compress there. This last plaster is commonly unnecessary. If the appliance be too tight, as indicated by thumping at the wrist, slacken it, or nick the plasters so that the circulation may not be interrupted. Stitch the plasters if there be a tendency to slip. One application of the plasters will commonly be all that will be required in each case.

By this method you may get a cure so perfect that, as has happened to me, you cannot persuade people that it was fractured at all, and cannot find its seat yourself. It is perhaps better to have some one see it with you, or allow the patient to go about untreated for a few days, until he is satisfied that it is really fractured. A fracture should be set the moment it occurs, if possible. In the case of the clavicle, it can be done at once, and that is an amen to the matter. Do not wait in fractures for nine days before doing anything, as was until recently the teaching of the schools. Another advantage of this method is, that by it we avoid

the irritative fever which is apt to follow fracture. Of the thousand and one inventions which I have tried, none has given such satisfaction as this, of which I have had a fifteen years' experience. I must disclaim all originality of the idea. The credit of it belongs to some one whom I heard propose it at a meeting of a medical society, and whose name I know not. For little children, there is none so good as this. Dessault's bandage, thirty yards long, entangles the young one in such a labyrinth of bandage, and requires such frequent adjustment, that using it you will be apt to conclude that it is a very bad fracture to treat, and had better be let alone.

With this treatment any one can go about and attend to his or her business at once, and until union. I believe, that if perfect apposition be secured, union by first intention may take place in bone as well as in soft parts. Do the best you can; but always believe, in your own mind, that shortening need not necessarily occur.—*New York Medical Gazette.*

TREATMENT OF HEMORRHOIDS.

Dr. John H. Packard, Surgeon to the Episcopal Hospital, Philadelphia (*N. Y. Med. Journal,*) says, that one principle should govern us in all the palliative measures adopted in any case of piles: namely, to prevent straining. And this may be carried out in various ways. Besides the adoption of a proper diet-table, embracing simple but nutritious food, well cooked, and not highly seasoned, there are four points to be attended to. By means of medicine we keep the bowels easily moved; ℥ ss. or so of sulphur, mixed with cream or molasses, every morning before breakfast, will do this. Or by very small doses of Epsom-salts, by Vichy, Congress or Bedford water, we may accomplish the same end. The second measure is mechanical: the patient is intructed to have made a board, with an opening about five inches wide by fourteen long, to place over the ordinary privy-seat, which allows the nates to bulge down too much; this will in a great degree prevent the protrusion of the relaxed rectum. The third is the use of astringent suppositories, to be used after each stool. He has found the perchloride of iron, grs. j, ij, or iij, made up with cacao-butter, to answer best, unless the piles are inflamed, when the acetate of lead is more soothing. The fourth element of the treatment is the employment of a hemispherical block of ivory or vulcanized rubber, about as large as half a billiard-ball, attached to a spring of properly adjusted strength, and this again fastened to a belt. When in place, this supports the parts, and in cases of great relaxation prevents their descent in walking; the comfort thus afforded is very great.

Medicine.

ALTERATION IN THE URINE FROM THE USE OF CARBOLIC ACID.

By J. A. Waldenstrom.

Although this remedy has for a long time been used at the Academical Hospital in all forms of suppuration, with a view to checking decomposition of the pus, in three cases only did the urine exhibit any change which could be ascribed to the action of the carbolic acid. The first patient came in with a gangrenous phlegmon in the entire of the right leg. The largest portion of the skin and subcutaneous areolar tissue had sloughed away, so that it was possible to see the soleus muscle almost from its origin to its insertion. To arrest decomposition of the pus, the diseased bone inside the moist warm dressing was enveloped with a piece of lint dipped in the ordinary carbolic acid oil. In consequence of the nature of the affection, and of the patient's advanced age, the prognosis was very bad, and when, after the lapse of eight days, simultaneously with the complete separation of the dead areolar tissue, the urine assumed a dark red colour, the case was regarded as hopeless. It was reasonable to suppose that the change in colour had its origin in a resolution of the blood, but, notwithstanding the employment of all the chemical re-agents, its presence could not be detected in the urine, which was clear and of a strongly acid reaction. On Professor Almen, who kept the urine for closer examination, informing me that it contained carbolic acid in large quantity, I intermitted the use of the solution of the acid in question for a day, when the urine resumed its normal appearance, but as soon as the carbolic acid was again employed, the dark red colour returned. The advantage of employing carbolic acid (for preventing decomposition of the pus, and so the occurrence of septicæmia), and the possible injury from it (in producing a nephritis) made me doubtful whether I should desist from the use of it or not. However, it was tried for some days longer, but the pieces of lint were first wrung out in a dry towel before they were laid upon the sore, and as soon as this precautionary measure was adopted, the urine preserved its normal colour.

The second patient resembled the one just spoken of in every particular, not only as regarded the seat of the complaint and its extent, but also in respect to the behaviour of the urine in relation to the greater or less quantity of carbolic acid which was used in the dressing. The third case was a middle-aged woman with a very extensive periostitis in the right thigh. The pus that escaped on incision was thin, blood-coloured, and easily underwent decomposition. The suppuration in the large cavity was profuse and of a fœtid character. With a view to check

decomposition of the pus, as much as two tea-spoonfuls of a solution in oil of the acid was one day injected into the cavity, the latter having been previously rinsed out with water containing carbolic acid. The consequence was, that next day the urine possessed a tarry colour. Some days later, when the urine had regained its usual appearance, the same injection was repeated with a precisely similar result. The urine was then more closely examined and was found to contain both albumen and the colouring matter of the blood. The latter had already disappeared next day, but the albumen continued, although in small quantity, for a few days. Death occurred as a consequence of septicæmia. A similar transitory presence of albumen in the urine was also observed in a patient who used carbolic acid internally for a syphilitic cutaneous eruption.

From what has been stated we see then that carbolic acid is not as harmless as it is often represented to be. Separated by the kidneys, it acts as an irritant on these organs and may give occasion either to an hyperæmia alone, or to a parenchymatous inflammation, which is not an unimportant complication of the other affections, even if they are not so serious. Neumann's investigations on the action of carbolic acid on dogs poisoned therewith, also show that a considerable fatty degeneration in combination with a molecular breaking-up of the cells of the iver, hyperæmia of the kidneys with a turbidity and separation of the epithelium in the urinary passages are the changes constantly met with on *post-mortem* examination.

This obliges us to take the greatest precautions in the use, whether internal or external, of carbolic acid, and frequently to examine the urine in order to be able instantly to withhold it on the occurrence of a state of renal irritation. In solution in oil, too, carbolic acid appears to be more readily absorbed than in an aqueous solution, so that we should, in affections such as the two first brought forward, where the acid comes into direct contact with a large granulating surface, prefer the latter form to the former in using it: unless it be made weaker than usually employed (one part in six to eight.)

The cause of this altered colour of the urine, which is met with only in the external use of the remedy, we do not know with certainty, but it probably depends on the presence of some unknown oxidised products of carbolic acid. It may be assumed that this oxidation takes place prior to the absorption of the acid, because, otherwise, we should find the alteration in colour of the urine in cases of its internal use also.

DIAGNOSIS BY EXAMINATION OF URINE IN OBSCURE FORMS OF URINARY DISEASE.

By Sir Henry Thompson, Surgeon and Professor of Clinical Surgery to University College Hospital.

I wish to call attention to a mode of obtaining a diagnosis in some rare and doubtful cases of disease of the urinary organs, when all other modes have failed. I described it first in my clinical lectures at University College Hospital, some years ago, as a means of observation which had never to my knowledge been recommended or practiced, and which I had adopted systematically, and which I have since found of extreme value in some exceptional instances. Thus, for example, we not seldom meet with a patient whose urine, usually containing a small or varying quantity of blood and pus, presents more or less albumen, but relative to the precise origin of which it is desirable to be certain. Some of the deposit produced is of course due to the admixture named; and while we may be right in believing the quantity to be equal only to the blood and pus in the urine, we cannot be certain whether some of it may not be due to renal changes. In such a case, the other signs, and the symptoms also, are often insufficient to enable us to say whether they are due solely to vesical disease or to pyelitis, or whether there may be some renal affection, not to say constitutional albuminuria, complicating the conditions named. On the other hand, the symptoms may apparently indicate only an affection of the bladder; there may be no symptom of disease involving any higher portion of the urinary tract; nevertheless, the experiment to be described may prove the kidneys to be almost solely the seat of the malady. Few cases present more of obscurity than some of those with the characters thus briefly indicated.

The proceedings may be described as follows. A No. 6 or 7 flexible catheter is introduced into the bladder while the patient is in an upright position, and the urine drawn off is placed in a vessel apart. By means of an elastic gum-bottle containing a few ounces of warm water, the bladder is washed out two or three times, with about an ounce or two at a time, until the outflowing fluid is perceived to be quite clear. The catheter being left *in situ*, fresh urine from the kidney, untainted by any admixture, will now pass by drops into a test-tube placed to receive it; and a specimen, therefore, of true renal secretion, unqualified by vesical products, will be furnished in about five minutes, sufficing for a chemical analysis and useful to a certain extent for microscopical observation. By this simple process I have been enabled to solve the question of disease of the kidneys in some cases in which hitherto doubts as to their implication existed; and have often had the satisfaction of demonstrating that

the secretion obtained direct from the organs was absolutely free from any sign of disease, where they had previously been suspected to be the seat of grave mischief. But there is one sort of fallacy on applying this test which is occasionally to be met with. An illustration of it exists at this moment in the case of a man now in my ward at University College Hospital. If the bladder easily bleed with instrumental contact, as occasionally happens, the process may produce a slight admixture of blood in the urine so obtained, barely enough to tint it, but sufficient perhaps to occasion a considerable deposit to heat and nitric acid. It should never be forgotten, in estimating these products, that, for equal quantities of blood and pus, the former produces a much more bulky deposit of albumen than the latter. Of course, then, this disposition to slight bleeding, as a result of the procedure, and any augmentation of albumen so caused, is of itself strong evidence of vesical rather than of renal disease. I should say that the accident just named is one of rare occurrence.

—*Brit. Med. Jour.*

Materia Medica and Chemistry.

THE AFTER-TASTE OF QUININE.

The *Dublin Medical Press* says, in practice there is often experienced a great difficulty in getting patients to take quinine, because of its after-taste, which to some is simply unbearable, and when antipathy thus exists, combined with a difficulty in swallowing pills, the therapeutic value of an important drug is lost. We find, that the fact may not be generally known, that the mastication of some acid fruit, as an apple or a pear, will permanently remove the disagreeable after-taste of quinine. The first mouthful of fruit should be well masticated and rolled through the mouth, so as to cleanse the teeth, &c., and then ejected. The second morsel may be swallowed, when it will be discovered all taste of the quinine will be removed.

PERCHLORIDE OF IRON AND MANGANESE IN NECROSIS, FISTULOUS SINNSES AND HYDROCELE.

Professor Marcacci, in an essay on this subject in *an Italian Medical Publication*, arrives at the following conclusions. 1. Perchloride of iron and manganese, injected into fistulous sinuses, destroys the pyogenic membrane, modifies the state of the walls, and favors cicatrisation. 2. In necrosis, it acts on the confines of the living bone, stimulating its

vessels, so that the detachment and separation of the dead bone are facilitated by the formation of new vessels in the living. 3. In hydrocele, it soon modifies the inner surface of the tunica vaginalis, which becomes filled with plastic exudation, attended with more or less inflammation, according to the quantity and strength of the injection used. 4. It is not necessary that the tunica vaginalis should be distended by the injection; it is sufficient that the liquid be brought into contact with all parts of the membrane. 5. Very little pain is produced by the contact of the solution, but it is not the less efficacious. 6. A weak solution is sufficient, which should be kept in two minutes. 7. In seven cases of hydrocele in which the injection was used, hard œdema followed, but was not a serious complication.—*L'Imparziale*, January 16th, 1871.—*Brit. Med. Jour.*

ROYAL SOCIETY OF EDINGURGH.

At the opening of the Session 1870–71, Milne-Holme, M.D., LL.D., Vice-President, delivered an able address, in the course of which he noticed the death of Fellows of the Society in the past year, dwelling naturally upon those of Professors Simpson and Syme.

Professor CHRISTISON alluded to the notice that had been given of Sir James Simpson. As to the discovery of chloroform, he said the history of that had never yet been fully given. When fully given, it would constitute one of the most curious instances he knew of the gradual progress of discovery. There was one link which he thought, in justice to Sir William Lawrence, he should supply, as he could do it authoritatively. Sir William Lawrence, in the summer of 1847—the same year in the November of which Sir James Simpson made his great discovery—did repeatedly employ a solution of chloroform as an anæsthetic in his surgical practice, and ascertained that it was a superior agent to sulphuric ether. Had Sir William possessed that knowledge of chemistry which Sir James Simpson very properly held that every medical man should possess, he thought there was a strong probability that he would have anticipated Sir James in his great discovery. But the article had come to him recommended by the very absurd name of chloric ether. He (Dr. Christison) rather believed there was no such thing as chloric ether known; nevertheless there was an article which had been so called. It was recommended to Sir W. Lawrence under that name; it was tried under that name; and he was informed that both Sir William and his assistant saw that something more concentrated was wanted, and that they were busy considering how they might concentrate it when suddenly the discovery

of Sir James Simpson came forth and put an end to their enquiries. Had they been aware that the substance in their hands was nothing else than a solution of chloroform in rectified spirit, the solution of their problem would have been very simple indeed. In giving some reminiscences of Professor Syme, Dr. Christison said that the reason why that eminent man returned from London was not disappointment in regard to practice. His practice during the short time he was in London was a great success. His reason for returning was, that he found himself uncomfortably circumstanced in several respects, particularly as a teacher in University College. He was finally determined to leave the metropolis by his having been present when two of his colleagues were grossly insulted by the students at a great public meeting, and not the slightest attempt made by the Council then present, with Lord Brougham their Chancellor, at their head, to defend those professors from the insolence to which they were subjected.—*Proceedings of Royal Medical Society of Edinburgh.*

VERATRUM VIRIDE IN PUERPERAL CONVULSIONS.

By D. Colvin, M.D.

In reading the proceedings of the New York Pathological Society, I was much pleased to see that the use of the veratrum viride in puerperal convulsions was meeting with much favour. For the past five years I have used it in many cases with better results than from any other course which I had heretofore pursued.

But a few weeks ago I used it (not in such doses as were reported by Dr. Finnell to have been given by a homœopathist) in a case of eclampsia, where the consulting physiciam and myself could distinctly count the pulsations at one hundred and seventy per minute, and where no amelioration of symptoms could be obtained with the use of chloroform and the other ordinary remedies in use for this grave malady. I gave Squibb's Fluid Extract, beginning with five drops, and increasing the dose one drop once in two hours until a decided impression was made upon the heart's action. Seven drops at that interval were all that was required to sufficiently diminish the pulsations to bring about the desired result. Also I wish to say a word relative to the use of the same remedy in pneumonia.

For eight years past I can truly say that, with the exception of an occasional Dover's powder, I have quite exclusively relied upon the veratrum in the treatment of this disease.—*New York Medical Record.*

BROMIDE OF POTASSIUM IN LEUCORRHŒA.

Dr. A. H. Kinnear reports (*Chicago Medical Journal*) twelve well-marked cases of leucorrhœa, none of which were of less than six months' standing, where bromide of potassium was administered with excellent success in doses of grs. xx twice a day. Under this treatment the disease yielded in a majority of cases in one month. He also gave the remedy in a case of gleet, which resulted in a perfect cure in the course of a week.

REPORT ON THE ACTION OF QUINODINE AND CINCHONINE AS REGARDS THEIR INFLUENCE ON MALARIOUS FEVERS.

By J. Butler Hamilton, M.D., Assistant Surgeon, R.A., Allahabad.

"In consequence of a Circular from the Inspector General of Hospitals, ordering a strict trial to be made of alkaloids other than quinine, both as prophylactics, and in the treatment of malarious diseases, the following arrangements have been made:—

"Quinine in doses of 3 grs. per man per day is to be issued to all men of No. 1 Battery, 25th Brigade, and Staff Head Quarters, 25th Brigade Royal Artillery, consisting of 80 men; quinodine and cinchonine in similar doses being issued to the men of D Battery, 16th Brigade Royal Artillery, right and left Half-Batteries, consisting of 67 men each, on an average; and all cases admitted to hospital suffering from malarious diseases are to be treated with the alkaloids allotted to the division to which the man belongs, the doses (at first) to be the same in all cases as if quinine only was used."

This plan was most carefully carried out from the 3rd of August to the 16th November, 1870, under the constant personal supervision of myself; the drugs were administered daily by a careful Medical Subordinate, and were not in any way objected to by the men.

The solutions of the quinodine and cinchonine were made with dilute sulphuric acid, the dose being grs. iii to 1oz. of water.

The following are the results:—

Quinine.

Head-Quarters and No. 1 Battery 25th Brigade, R.A.; strength 80 men. Admissions from Ague 7 = 8·7 per cent. of strength.

Cinchonine.

D., 16th B., R.A. Right Half Battery; strength 67. Admissions from Ague 13 = 19·4 per cent of strength.

Quinodine.

Left Half Battery; strength 67. Admissions from Ague 5 = 7·7 per cent. of strength.

From the above facts it would appear that quinodine ranks highest as a prophylactic, as the men treated with it show only 7·7 per cent. of admissions.

Quinine ranks next giving 8·7 per cent., and cinchonine undoubtedly last, showing 19·4 per cent. of admissions.

It must also be borne in mind that these men were all under exactly the same conditions, as to residence, food, clothing, exposure, night duty —in fact, three bodies of men more evenly situated in every way could not be found. Now, as regards the immediate action of the drugs, an undoubtedly tonic effect was produced by all. The action of quinine is so well understood, that it would be superfluous to touch on it. Quinodine seems to act nearly in every way, in a similar manner to quinine, and the cases treated with it in the ordinary way yielded as readily to the equivalent doses, as they would have done if treated with quinine.

Cinchonine did not give such favorable results; no doubt it has a certain amount of tonic, prophylactic, and anti-periodic power, but it was less efficacious and certain in its effects, requiring larger doses than either of the others; the paroxysms of fever returned oftener, and in many cases I had to omit it and finish the cure with ordinary doses of quinine. —*Indian Medical Gazette, March*, 1871.

Midwifery.

PROCEEDINGS OF THE GYNÆCOLOGICAL SOCIETY OF BOSTON.

Dr. Sullivan reported a case in which he had made an exploratory abdominal section, with the result of finding

GREAT HYPERTROPHY OF THE SPLEEN.

The history was a follows;—

Statement of Mrs. Carpenter's Case, written by Dr. Joshua Chamberlin, of Frelighsburgh, Province of Quebec, Sept. 20th, 1870.

"I was consulted by Mrs. Carpenter, in January last, (1870). She gave me the following history. She is twenty-eight years of age, was married at fourteen years of age, had a miscarriage at sixteen years; living child born at seventeen years; two children subsequently, and up to the birth of her last child, on the 15th of March, 1868, has enjoyed good health. The same day, after birth of last child, had alarming hemorrhage, which continued for several days, producing great prostration. There was scarcely any milk, and the secretion entirely subsided, and she had a long and bad getting up, and has never enjoyed good health since that date.

"Catamenia commenced about six weeks after confinement, 15th March, 1868, and have been irregular, accompanied with leucorrhœa.

"In July, 1869, the catamenia having been previously interrupted for two months, she began to experience a degree of fulness over hypogastric region, especially over the left side of the symphysis pubis and left iliac region, and supposed she was *enceinte*, and was not alarmed at her situation. This state of the catamenia continuing, the fulness over the above regions and enlargement kept gradually increasing until January last, when, upon being for the first time consulted, I found all the above symptoms increasing, and the fulness extending over the hypogastric, left hypochondriac, and abdominal regions, with apparent slight state of effusion. I found, upon examination per vaginam by the speculum, that there was subacute inflammation of the os uteri and excessive leucorrhœal discharge, and that there was a normal state of the uterus in all other respects. I treated the leucorrhœa with astringent and mucilaginous injections locally, and generally with ferri citr. e.strych., and have had no further return of the disease.

"The enlargement and fulness has constantly and regularly increased, and at the present time (Sept. 20th, 1870) there is a large tumour occupying the entire left iliac and hypogastric and left hypochondriac regions, and a portion apparently separated by a fissure or division on the left side of the linea alba, extending over a small portion of the opposite side. The tumour is of a much more flattened form than is usual in simple ovarian enlargement, extending from the left hypogastric and illiac regions, passing anteriorly under the crest of the ilium and symphysis pubis, then upwards on left side of the linea alba under the left false ribs, occupying the hypogastric and abdominal regions and left hypochondriac region. The entire tumour seems to be of semi-fibrous character and no attachments can be detected; but as it extends posteriorly to the left lumbar vertebræ, there may be some attachments posteriorly, though there are no symptoms warranting such conclusion, as there have been no signs of pressure upon the spinal column, as it seems to me would have been the case had such attachments and pressure existed upon any portion of the lumbar vertebræ.

"The treatment since she came under my supervision has been tinct. of iodine externally, hydriodate and chlorate of potassa alternated internally, and occasional apperients, with sedatives to allay irritation. She is now anxious and fully determined to have the tumour removed at the earliest possible moment, wishing to take her only chance for the prolongation of her life, which she is fully satisfied cannot long continue unless relief be afforded by the extirpation of the tumour.

"Upon examination, in consulting with Dr. Sullivan and Dr. Quimby, of Malden, Drs. Gilbert of Sherbrooke, and Brigham, of Philipsburgh,

and Dr. Smith of Frelighsburgh, after submitting the above details of the case, and after a personal re-examination by these gentlemen, I submitted the following query: What is the character of the tumour, and can it be removed by an operation? The patient should have the benefit of all doubts, if any exist in her favour, the more especially as she is so fully aware of the fatal termination of her case without the removal of the tumour on the one hand, and on the other the chances for prolongation of life if the operation can be successfully performed."

Dr. Sullivan's Statement.—"I saw Mrs. Carpenter October 25th, 1870, at Frelighsburgh, Canada. A small woman, extremely emaciated, very anæmic, countenance somewhat sallow, but not the sallowness of jaundice or cancerous disease; she presented the characteristic 'facies ovariana,' the 'hide-bound' face, which I should infer from the present case is not peculiar to ovarian disease, but may exist in connection with other abdominal tumours. I ascertained that there had been very little constitutional disturbance during the progress of the disease, the symptoms being gradual decline in strength with progressive emaciation.

"On examining her abdomen I was enabled to verify in every particular the previous statements, verbal and written, of Dr. Chamberlin, her attendant; his description being so careful and exact that it will be unnecessary for me to repeat it. There was some œdema of the lower extremities, and a slight sense of fluctuation in the abdomen, which contained something like a pint of fluid. In reference to this point, I may observe that after the patient was chloroformized, on percussing the abdomen the passage of an unbroken wave of fluid across the entire surface of the tumour was distinctly recognizable, thus rendering it improbable that adhesions existed between the anterior face of the tumour and the abdominal walls. The entire hypogastric region was filled with the tumour, which stretched from one ilium to the other, but the bulk of the mass was situated to the left of the linea alba, extending upwards, as described by Dr. C. The mass seemed to be immovable, but as manipulation caused a good deal of pain, I could not be sure that this was the case. When the patient was under chloroform, it was found easy to push the tumour upwards for at least two inches, and to detect what appeared to be a firm adhesion to some of the tissues or organs situated behind the pubic bones to the left.

"Examination per vaginum with the finger and sound revealed a quite normal condition of the vagina and uterus; the latter occupying its natural position, slightly but not abnormally anteflexed, not prolapsed, os slightly patulous, internal sphincter relaxed, indicating the previous existence of the diseased conditions recognized and treated by Dr. Chamber-

lin. No fulness whatever could be distinguished in either cul-de-sac, either while the patient was in the recumbent posture or examined while erect. The ascitic effusion was insufficient to cause bulging downwards of Douglas' fossa; neither was it possible to determine the existence of a tumour by any species of vaginal exploration, however carefully made. On this account I concluded that the tumour was probably not ovarian, but that if ovarian it had a long pedicle, and perhaps rested upon the iliac fossæ in such a way as to render its detection per vaginum impracticable. On percussing the abdomen, there was dulness or flatness over the entire space occupied by the tumour, extending to the left lumbar vertebræ, and posteriorly as far up as the lower border of the left lung. Anteriorly, the area of the dulness extended upwards on the left side until it was lost in that of the hepatic, cardiac and splenic regions. In the right hypochondriac region there was present also an amount of deep-seated dulness on percussion, less marked than that over the tumour itself, which was afterwards found to be due to enlargment of the right lobe of the liver. Pulse eighty; heart and lungs apparently healthy, as nothing abnormal could be detected on auscultation and percussion; no urinary difficulties. Drs. Gilbert, Quimby, Brigham, Chamberlin, and Smith having examined the case and confirmed the above facts, the question of diagnosis was formally discussed, when each of the gentlemen confessed his inability to arrive at any conclusion whatever as to the precise character of the tumour. The general opinion was, however, that the diagnosis lay between a fibrous tumour of the uterus or Fallopian tube, an omental tumour, or possibly, but not probably, an ovarian growth of some sort. It was clearly neither an enlarged liver nor kidney, not an enlarged uterus, and not a uterine outgrowth of any sort.

"All were agreed that the patient in her present state had but a short time to live, and that to comply with her earnest and reiterated request that the tumour should be removed if possible, was not only justifiable in a surgical point of view, but a duty to the patient. An exploratory section was recommended and decided upon by the common consent of all present, *nemine contradicente*, and was accordingly undertaken the same day.

"Patient took kindly to cloroform, which was very carefully administered by Dr. Smith, of Frelighsburg, and having been placed on the table an incision was made a little to the left of the median line, beginning two inches below the umbilicus and extending three inches downwards. The integument was first divided, then some cellular tissue on the director afterwards; as the abdominal parietes were very thin, a portion was lifted by the forceps, a small opening made through the entire wall, and the

division completed by the scissors, using the finger as a director. About a pint of clear serum escaped and a portion of the tumour, having a deep red, rather mottled appearance, was exposed to view. I was unable to diagnosticate its nature, and, on appealing to the gentlemen present, found them equally in the dark. On introducing the hand into the abdominal cavity, no adhesions could be detected, which, were there no others, would preclude the removal of the mass. The incision was then enlarged in both directions; on cutting upwards through the abdominal walls the right lobe of the liver was exposed, enlarged, and reaching downwards three or four inches below the ribs. It was then ascertained that the tumour was an enlarged spleen, but its detachments were apparently natural, though more extensive than usual, in consequence of the enlargment of the viscus and their being drawn downwards by its weight.

"Owing to the exsanguineous condition of the patient and the œdematous state of the abdominal walls, there was freer hæmorrhage than usual from the divided surfaces, but of a serous character. More than two hours elapsed before the oozing from these surfaces could be restrained with sponges and exposure to the air. When this had at last been accomplished to the satisfaction of all present, the wound was brought together with wire sutures and adhesive straps, and several bits of carbolized sponge were placed over the line of the incision, and confined by plaster and flannel swathe.

"Free hemorrhage of the serous character described followed every puncture of the needle. A small opening was left, at the bottom of the wound, for the discharge of serum or blood. The patient soon recovered from the effects of the chloroform, of which but eight ounces had been used. Beef tea and brandy were administered, the latter by mouth and per anum. She remained to all appearance comfortable until about nine P. M., when she rather suddenly expired, having conversed quite freely a few moments before. Permission was obtained to examine the abdomen only.

"Sectio cadaveris eighteen hours after death. Rigor mortis well marked; abdomen not at all tympanitic; divided surfaces in perfect apposition; no external evidence of hæmorrhage, dressings not even stained; sponges applied in the course of the incision a little stained on the surface applied to the abdomen, but not in the least saturated. On removing the sutures and exposing the cavity of the abdomen, not far from eight ounces of loosely coagulated blood were found underlying the incision, which was believed by Drs. Chamberlain and Brigham to have been exhaled from the capillaries during the last moments of life. The cavity of the pelvis contained a small quantity of serum tinged with blood, and the rest of the

abdomen about a pint of serum, which appeared to have been confined in some way by the pressure of the tumour and abdominal viscera. The tumour proved to be the spleen. There were no adhesions save the natural attachments enlarged. Weight, eight pounds. The liver was near double its natural size, weighing about seven pounds. Kidneys healthy; uterus and ovaries and other viscera the same."—*Gynæcological Journal.*

ON USING SHORT FORCEPS WITH THE PATIENT IN THE SUPINE AND LATERAL POSITIONS.

By Andrew Inglis, M.D., Professor of Midwifery in the University of Aberdeen.

Introduction of Forceps in Lateral Position.

In this country, the following has been long the ordinary manner of using the forceps:—The patient is placed on her left side, across the bed, with the breech projecting beyond the edge of the mattress, and with the knees drawn up. The halves of the instrument are then successively in accordance with the *lateral* curve of the pelvis, the left being entered from across the patient's right hip, and the right from across her left. While the patient is in this position, the orifice of the vagina, unless already considerably dilated by the head, looks so much forward that entry of the blades from the side has to be preceded by more or less forcible drawing back of the perineum. Accordingly, the hand is introduced with the palm towards the child's head, the perineum drawn back, and the blade inserted between the hand and the head. In the progress of the blade, the handle, at first pointing nearly laterally, passes in a direction almost transverse to the mesial plane.

Disadvantages of Introducing the Forceps in the Lateral Position.

In this position there is often a good deal of difficulty in bringing, as well as in keeping, the patient's breech *over* the edge of the mattress. During a pain, or the introduction of the hand, especially where chloroform is used, the breech may be retracted to such an extent as to require replacement before the operation can proceed; and all this is often many times repeated before the upper blade can be got in. Much trouble also sometimes arises from the patient extending her limbs. Again, this method of operating makes it necessary to force back the perineum, a proceeding, of itself, at least, an inconvenience; while the flexion of the limbs on the body, by drawing forward and making tense the perineum, raises to a maximum the difficulty of drawing it back. Moreover, there is needlessly imposed on the blade a course which deviates more or less

from the true curve of the pelvis. Altogether, a certain amount of decidedly rough usage of the soft parts is entailed, for which the method of operation is alone to blame. The whole proceeding is like placing a male patient on the left tide and then trying to *pass the catheter on him from behind.* That the lateral curve of the pelvis has to be attended to, does not in the least invalidate the comparison, for that curve is greatly tighter than the antero-posterior one, and does not, for its observance, require either that the patient should be on the side, or that introduction should be from behind. Besides, when the forceps are put in from behind, the posterior edge of the blade is pressed upon by the perineum, and the force used to overcome this pressure may be such as to lessen very materially the information derivable through the handle as to the position of the point; and, if this pressure of the posterior edge on the perineum be not strong enough, the tip of the blade will press on the anterior wall of the vagina, thereby increasing the force required for introduction, and diminishing still more the information derivable through the handle.

With some operations, the difficulty the adoption of this position entails, is to a certain extent got rid of by insertion of one-half of the instrument (the upper one) from the front; and this, as far as it goes, is certainly an improvement. When this latter method is followed, the lower half is put in from behind in the usual manner, and then the thighs being kept pretty close against the belly, the other half is introduced from between the limbs in the middle line, flat along the back wall of the vagina. After the blade, following the antero-posterior curve alone, has passed a short way in this direction, the handle, getting in its course backwards clear of the limbs, is brought across the back of the left thigh, and the blade is then easily made to observe the lateral curve also.

Introduction of Forceps in the Supine Position.

For some time I have adopted the supine position for the patient when the head is low in the pelvis. She lies close to, and nearly parallel with, the side of the bed, and with her head low. The left half of the forceps is the one first put in. If the fœtal head is near the outlet, introduction of the hand into the vagina is unnecessary; but if a little above the outlet, two fingers should precede the blade into the vagina to guard and direct. In entering the point, the instrument is held like a male catheter, though with the handle inclined slightly towards the right groin, and, as the blade is pushed on in the direction of the pelvic axis, the handle gradually comes nearer the middle line, and is depressed in exactly the same manner as that of the catheter. The second half is passed in the same way as the first.

Advantages of Introducing the Forceps in the Supine Position.

To begin with :—The use of the supine position in the manner I have just described,* saves all the trouble and the formidable appearance involved in the dragging down to the middle of the bed and placing across with the breech projecting over, that have to be gone through with the lateral. Then, again, there is little or no difficulty in keeping the patient in position ; she has comparatively but little tendency to be restless, the disturbance to the soft parts being reduced to a minimum.

In proof that the disturbance to the soft parts is very slight, I may mention that I have, in more than one multifarious short forceps case, where inertia was the cause of the delay, introduced the blades and locked without the patient being aware of the use of instruments, though quite awake and expecting them to be applied.

In most short cases, after the blade has been passed a little way in, but little guidance will carry it on to the proper distance, and in the proper direction. The weight of the handle is, till the shank reaches the perineum, about all that is needed for the purpose, and the proceeding, if not then complete, as it usually is, can easily, by pressure, be made so.

Locking in the Lateral Position.

In a short forceps case, with the patient on her side, and the presentation good, locking should not be very difficult, yet the operator cannot always dispense with assistance. Whether the right or left half be put in first, the perineum may displace it; and, if the right one be put in first, not only must it be held in position, but also the left blade must be put in form behind it, thereby necessitating *an increase of all the disadvantages* of introduction in the lateral position, and a diminution of the chances of correspondence of the two halves of the instrument. Another difficulty also arises from the not knowing exactly the position of the mesial plane of the pelvis.

Locking in the Supine Position.

In locking with the patient supine there is much less trouble. As the first half put in must be the posterior, or left, having the lock on the anterior or pubic aspect, the handle of the right, as it is depressed, comes into position almost of its own accord, no assistant being required to

* I do not discuss the French, or lithotomy position, for various reasons. It has many of the objections in common with the lateral position, and some in an increased degree, and I am certain it will never be introduced into ordinary practice in this country.

touch during any part of the operation. Besides this, we obtain, by adopting the supine position, an accurate knowledge of the situation of the mesial plane of the pelvis, such as cannot be had if another posture be chosen.

Disadvantages of Traction in the Lateral Position.

When the patient is on her side, with the breech over the edge of the bed, an assistant is often required to hold her for fear she may be pulled out of it; and if strong traction be necessary when the handles are pointing forwards, her breech may be drawn round in the direction of the line of traction, so that the operator will have to pull in an increasingly constrained position; and, as the limbs must be flexed, the perineum is drawn forward, thereby obliging the operator to continue pulling still farther in the curve transit, and thus increase the constraint of his position still more. In fact, in this position the traction must be made by the operator, first towards him, then to the right, gradually round the corner, and at last away from him in a back-handed manner, the handles by degrees getting beyond the reach of his left hand just as his right is getting into a more and more constrained position, and therefore requiring more and more aid from the left; and this constraint of position and want of power must lead to much misdirected, and therefore unnecessary, violence. The perineum, moreover, has to be taken care of, and, if any considerable amount of traction be required while it is being distended, it is quite impossible for the operator to attend to it himself.

Advantages of Traction in the Supine Position.

If the patient be supine, and lying lengthways *close* to the edge of the bed, all these disadvantages may be avoided. As her whole dorsal surface is in contact with the bed, there is no fear of pulling her out of it, or, by traction, of putting her in a more disadvantageous position than at first; and, however far the curve of transit may have to be observed, the operator stands in such a position that he can obtain the greatest purchase over his work, and therefore can exert his power with the greatest amount of accuracy, both as to direction and force; but, besides this, as the limbs are extended the perineum is shortened, so that the head becomes sooner free than when the lateral position is adopted. In fact, the operator stands like a carpenter at a bench, and applies his traction just as he would make a back stroke with a long saw, an instrument which is capable of being guided with more accuracy than almost any other tool. By grasping with the right hand from above, between the

limbs, the handles of the forceps, traction should be made more or less horizontally, according to the position of the head in the pelvis; and, as it advances, the direction of the traction must be more and more upwards, till at last the handles are perpendicular. When they are so, the perineum will be found distended, so that little farther traction is necessary; and, by changing the forceps from the right to the left hand, the handles can, with the left, be easily deflected towards the abdomen, while the right hand can be put in between the limbs and spread over the perineum to regulate the exit of the head. Altogether, the supine position gives the operator the power of commanding the greatest amount of accuracy of performance of the operation, and also enables him to dispense entirely with assistants, for, unless the patient take hold of his hands, there is no movement she can make that he cannot control.

The Perineum.

One of the strongest inducements to adopt the supine position, is the power it gives of guarding the perineum. When a patient lies on her back, with her limbs extended in an easy position, but not apart, and the toes slightly turned out, the perineum it as slack as it can be. By drawing up the knees the covering of the whole breech is tightened, and the perineum is deprived of the power of borrowing from all around it, just in proportion to the amount of flexion; and this fact is so well known to surgeons, that in order to obtain a maximum amount of tension in the male perineum (as in the operation of lithotomy), they always take advantage of it. But in the female, during the passing of the head through the external orifice, this is not all that can be done to strain the perineal structures. By turning her over on her side, the skin of the hip she lies on is fixed, and the chance of borrowing from that side lessened to a greater extent than is compensated for by the resulting setting free of the sacral covering, which latter adheres to the bone and does not yield appreciably to accommodate any perineal strain. The free edge of the fourchette may still be tolerably lax, but by holding apart the knees (as by putting a pillow between them) the height of perineal tension is attained.

In discussing the advantages of this position, we have also to consider the form of forceps to be used. An improved knowledge of the shape of the fœtal and the maternal pelvis has led to the almost universal adoption of a curved blade to fit the head and to accord with the curve of the pelvis, and it is only to those who used such curved blades that these remarks can be of much service. As to the handles, there is also a modern improvement which is not so universally adopted as the sacral

curve, but which brings out in a marked degree the advantages of the supine position. I allude to the cross hold near the lock, which so many modern forceps have. This cross hold is produced in two ways, either by making a wide space between the shanks of the blades, or by putting projections for the fingers on the outside of the end of the handles which is near the lock; and as in using this cross hold, the hand and arm are in the line of traction, the greatest force and accuracy can be obtained in the supine position.

In conclusion, I will only add, that the importance of observing the supine position, when possible, and of inserting the forceps from the front, is not trifling. Not only is the perineum in some degree in danger in all primiparæ, but, in some multiparæ when extraction is difficult, the soft parts suffer from the liberties necessarily taken with them; it therefore is incumbent on us, under all circumstances, to use the best means which enable us to avoid irritating or impairing the vitality of these parts. It can only be in multiparous cases where the soft parts are lax, that we can dare to tighten them up without fear of a rupture; but even then there can be no special inducement to do so.

I have lately become aware that in some parts of Great Britain practitioners can still venture to operate in severe forceps cases without chloroform, and yet not excite the local popular indignation. Where such a deplorable state of matters exists, the use of the supine position would be a great boon. The patient is not pulled about at all to get her into position, a minimum amount of pain is inflicted, and the bed clothes are not disturbed from first to last; while, if the lateral position be chosen she must be pulled about a good deal, expects something dreadful to be done, suffers an unnecessary amount of pain, and must believe that she has had her person somewhat exposed.—*Dublin Medical Press and Circular.*

Miscellaneous.

Dr. CHARLTON, of the Newcastle Infirmary, (*Brit. Med. Journal.*) has found creasote so uniformly successful in checking the vomiting which sometimes occurs in Bright's disease, that he has diagnosed this malady where other symptoms were absent, by the cessation of vomiting under that remedy. As another diagnostic sign he states that "tenderness on pressure of the pneumogastric in its course through the neck is evidence of inflammatory disease of some of the organs to which it is distributed, whether it be stomach, lungs, spleen, liver, or kidneys." If only one side be affected, the nerve on that side will alone be tender.

Concerning the use of iodide of potassium in syphilitic skin diseases, Dr. McCall Anderson lays down the following rules:

1. The longer the interval which has elapsed between the contraction of the syphilitic taint and the development of the eruption, the more likely it is to be of service.

2. If the patient is cachectic, it is, as a rule, to be preferred to mercury, except in recent cases of syphilis, when the mercurial vapour bath, or some such treatment, is more likely to prove successful.

3. The more extensive the tertiary eruption, the more certain it is to yield to iodide of potassium; although to this rule there are numerous exceptions.

4. If there is any tendency to syphilitic disease of the nostrils or neighbouring parts, iodide of potassium should be witheld, or given with great caution, for, if it produces coryza, it is very apt to aggravate the morbid conditions of the parts.

5. Should be given in full doses.

In the explanation of the last rule, Dr. Anderson states that he considers ten grains as the proper dose in the majority of instances, while sometimes as much as thirty or forty, thrice daily, may be requisite. As a typical prescription he gives:

Ferri ammonio-citratis	ʒ iij.
Potassii iodidi	ʒ i.
Syrupi zinziberis	ʒ vj.
Infus. gentian. co	ʒ viij.
Aquæ, ad	ʒ xxjv.

A tablespoonful in a large wineglassful of water thrice daily. *N. Y. Med. Gazette.*

TRINITY COLLEGE, TORONTO.

The Medical Faculty of Trinity College, Toronto, has been resuscitated, and the following gentlemen now compose the Faculty, viz.:—E. M. Hodder, M.D, F.R.C.S., Eng., Obstetrics and Diseases of Women and Children; W. R. Beaumont, M.D., F.R.C.S., Eng., Principles and Practice of Surgery; J. Bovell, M.D., M.R.C.P., Eng., Pathology, General and Special, and Medical Diagnosis; Norman Bethune, B.A., M.D., M.R.C.S., Eng., Anatomy, Descriptive and General; William Hallowell, M.D., L.R.C.S., Edin., Materia Medica and Therapeutics; Walter B. Geikie, M.D., L.R.C.S., Edin., L.R.C.P., London, Principles and Practice of Medicine; J. Fulton, M.D., M.R.C.S., Eng., L.R.C.P., London, Physiology and the Institutes of Medicine, I. Algernon Temple, M.D., M.R.C.S., Eng., Assistant on Obstetrics and Diseases of Women and Children; Archibald G. Malloch, B.A, M.D., Assistant Lecturer on Surgery and Surgical operations.

Canada Medical Journal.

MONTREAL, MAY, 1871.

A REVIEW OF THE TRIAL OF ANDREW HILL FOR MURDER.

We have received a pamphlet with the above title, which is a defence on the part of Dr. Worthington, of Sherbrooke, against a most unjustifiable attack of the presiding Judge, the Honorable Mr. Justice Short, on the evidence given before him by Dr. Worthington, at the trial of Andrew Hill for the murder of his wife, at the term of the Court of Queen's Bench, held in the town of Sherbrooke, in March, 1871.

At the inquest Drs. Austin and Worthington ascertained the cause of death to be hæmorrhage. On careful examination of the body two wounds were found situated on the right side of the vagina; these presented the appearance as of having been produced by some blunt instrument; the fatal wound led upwards by the side of the descending ramus of the pubis on the right side, stripping the bone of its periostial covering, and passing into the pelvis. The fact of the woman having fallen against the side of a bench and thence on to the floor, was brought out in evidence; but the nature of the wounds was such, as to induce the medical men who examined the body to declare on oath that they could not reconcile their appearance as of accidental origin.

With regard to the cause of the wounds in question, we must confess our utter incapacity at arriving at a satisfactory decision. We have read over the evidence with care, and cannot but feel that the whole case is wrapt in mystery. We are at a loss to account for two distinct wounds within the orifice of the vagina, one of superficial extent, the other deep, and showing that considerable force must have been used at the time to produce it. We say that we are at a loss to account for this extensive injury on any other hypothesis than that of direct violence. With regard to accident, or intention, the former could only occur under peculiar and unusual circumstances. The latter, of course, is feasible enough, but we should imagine could alone be undertaken, either by the woman being a consenting party, as when a person unacquainted with the anatomy of the parts, thrusts some foreign body into the vagina, purposely to procure abortion, or, on the other hand, if murder was the intention, the murderer being aided and abetted by a third party. These are the only conditions under which an injury similar to the one described, could have occurred.

In defence, the prisoner produced the evidence of two medical men who propounded the astonishing theory of the bursting of a varix. They had made no inspection of the parts, but appear to have rested their

opinion solely on the medical testimony as adduced by the Crown, conveniently overlooking the fact of the extent of the injury to the bone as well as the soft part. We can only say that, to our mind, supposition of the bursting of a varix occasioning so great an amount of injury is wild and extravagant, and should have been at once discarded. The Judge in this unfortunate case appears to have objected to Dr. Worthington's evidence as being positive and dogmatic.

Medical evidence before a Court of justice consists of testimony on questions of fact and on matters of opinion. A witness in giving skilled testimony is expected to be decided and positive, else his testimony is of nothing worth; he must base his opinion on such facts as are before him; he is not partisan, but should give his evidence fearlessly and freely, and that evidence, if within the bounds of common sense, should be respected. We presume it is the duty of a Judge to see justice fairly and honestly administered: but, in doing so, he can surely have no right to descend from his high position and asperse the character and professional standing of a skilled witness.

* * * *

The above was in type before the announcement of the death of the Honorable Mr. Justice Short, which has just reached us by telegraph, and, at first, we contemplated its suppression; but, on second consideration, we deem it a duty to our professional brethren to publish it, not so much as referring to the unfortunate personal differences which existed between two estimable gentlemen, but as vindicating a great principle involved. We have before expressed regret that conflicting medical testimony is too often seen in the Court-room. Such a course is alone calculated to lower the character and standing of our profession. With regard to the pamphlet before us, it is written in a mild and gentlemanly tone, and we must say that, after having perused the Judge's charge, which was published in the *Sherbrooke Gazette*, Dr. Worthington, in our opinion, was bound to reply in self-defence, inasmuch as that charge, as reported, was calculated to injure the professional standing of Dr. Worthington and place him in the light of an incompetent and unreliable man.

ROCKWOOD LUNATIC ASYLUM.

We have received the report of this Asylum for the year 1870, which is drawn up in an able manner by the somewhat recently-appointed Medical Superintendent, Dr. John R. Dickson. In a plain, emphatic style, he tells the commissioners what he has accomplished since his assumption to office, and for which we think him entitled to much credit. He pleads strongly for the removal of the connection between the Asylum

and the Provincial Penitentiary; and when he states that of the three hundred and thirty-five patients now within its walls, only forty of them are convicts, we believe that he has said all that requires to be said to convince every one that the sooner the connection is severed the better. We are totally opposed to the mixing of insane convicts with those who have not a criminal history—for, as the report says, "the non-criminal portion of our lunatics express great indignation if they discover that a convict lunatic from the penitentiary is permitted to associate with them, or even enter the same ward." If we remember rightly, this asylum was first started in the basement of one of the wings of the penitentiary, as a purely convict asylum, under the care of the late Dr. Litchfield, and that as numbers increased they removed to the Rockwood property. If the demands of Ontario have been so great that other than criminals have gained admission, till now they number more than the convicts seven times over, it is quite time that Rockwood took its place among the lunatic asylums of the country, and that, again, a purely convict asylum should be provided. We therefore hope that the suggestion of Dr. Dickson on this head will receive the attention it deserves. There are other admirable points in the report, which, did our space permit, we would like to refer to. At present we must content ourselves with congratulating Dr. Dickson upon his report.

NEW MEDICAL SCHOOL IN MONTREAL.

A number of medical men in Montreal have organized a new Medical School, which has been accepted as the Medical Faculty of the University of Bishop's College. The new Faculty open their first session on the first Monday in October next. The following gentlemen have accepted appointments in the new School, viz:—A. H. David, M.D., L.R.C.S.E., Professor of Practice of Medicine; William H. Hingston, M.D., L.R.C.S.E., Professor of Surgery; Robert Godfrey, M.D., Professor of Obstetrics and Diseases of Women and Children; Joseph L. Leprohon, M.D., Professor of Hygiene; Francis W. Campbell, M.D., L.R.C.P.L., Registrar and Professor of the Institutes of Medicine; Edward H. Trenholme, M.D., C.M., B.C.L. Professor of Materia Medica and Therapeutics; J. Baker Edwards, Ph. D.M.A, Professor of Chemistry, Practical Chemistry and Microscopy; Richard A. Kennedy, M.D., C.M., Professor of Anatomy; Wm. Gardner, M.D., Professor of Medical Jurisprudence; James Perrigo, M.A., M.D., M.R.C.S.E, Demonstrator of Anatomy; George Wilkins, M.D., M.R.C.S.E., Professor of Pathology.

At a meeting of the Quebec Medical Society held on the 13th May, 1871, the following gentlemen were elected office bearers for the ensueing year;—President, R. H. Russell, M.D.E.; Vice-President, Dr. H. Blanchet; Secretary, J. B. Blanchet, M. D.; Treasurer, J. T. Robitaille, M.D.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Granular Ophthalmia—Treatment of. By D. McGillivray, M. D., Physician to the Ottawa General Protestant Hospital.

Granular conjunctivitis is a very troublesome and frequent disease, and often very obstinate to treatment. It is found more prevalent in some districts than in others. But why it so prevails in certain places is not well defined. I cannot say that it is peculiarly prevalent in this section of the country, as most of the cases that have come under my notice were immigrants from foreign countries or from other parts of Canada, excepting that portion of our floating population formed by the lumbermen, who frequently seek medical advice for conjunctival diseases. The disease consists in a roughened state of the mucus lining membrane of the lids, and more especially of the upper lids. The granular elevations are simply the conjunctival papilae in a hypertrophied condition from inflammation, and vary in degree and extent in different cases. In some they are very minute and scarcely appear to the naked eye, while in others they are as large as pinheads and cover the greater part of the conjunctiva or appear only in patches. They are most frequently found on the internal surface of the tarsi, while other parts of the membrane appear healthy or sometimes swollen and injected. On closely examining the everted lid, small greyish white bodies like sago grains appear on the palpebral conjunctiva. They appear in greater number at the retrotarsal fold; these are termed simple granulations, or according to Stelwagg, "granular trachoma," and are met with in the acute and chronic forms of the disease. This state of the eye is accompanied by a mucopurulent discharge which is very troublesome to the patient, vision is also frequently impaired from opacity and thickening of the cornea, the result of friction by the granulations; and if the disease is allowed to go on, especially in the acute form, loss of vision may follow

from ulceration of the cornea. To prevent this friction many plans have been adopted, such as attaching the upper lid to the eyebrow by means of stiches or adhesive plaster, and applying solutions of lunar caustic, sulphate of zinc, sulphate of copper, acetate of lead, &c., to the granulations, a method attended with pain and annoyance to the patient and sometimes with but little benefit.

While treating cases by the above methods, it occurred to me that friction in this disease might be prevented or at least greatly lessened on the same mechanical principle that it is overcome between other opposing surfaces, namely by oiling. Acting on this suggestion, I made a solution of cod-liver oil and alum sulph, half a grain of the latter to the ounce of the former, and applied the mixture by a camel hair pencil to the granulations, night and morning or oftener. After several weeks' trial the result exceeded my expectations, the opacity of the cornea and the granulations disappeared and the eye recovered its natural clearness. I have used this local treatment in several cases that have come under my care during the last two years, with equally good results. The modus operandi consists in the oil lubricating the granular surface and allowing it to slide smoothly over the cornea, while the alum astricts the granulations and makes them smaller, thus also helping to lessen the friction and consequently reducing the amount of mucopurulent discharge. I have no doubt that the cod-liver oil exercises a medicinal influence over the diseased conjunctiva owing to its chemical composition. In all the cases thus treated, tonics combined with alkalies and a generous diet, were prescribed. Total abstinence from alcoholic drinks should be strictly enjoined, as they invariably aggravate the disease; the eye should be kept well sheltered from wind and cold, and bathed several times a day with warm water, or the conjunctiva well washed of discharges by syringing with warm water three or four times a day, especially before applying the oil solution; I have found it beneficial to bandage a wet pad on the eye, as it absorbs discharges and prevents to some extent the movements of the lid. This mode of treatment was persevered in for several months in some cases, while other cases yielded to the remedy in a few weeks.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Meeting held, April 28th, 1870.

The President G. W. Campbell, A.M., M.D., in the chair. The minutes of the last meeting were read and confirmed. The President then introduced

Dr. Henry Howard, Superintendent of the Provincial Lunatic

Asylum, at St. Johns, P.Q., who read the following paper on his system of "Ventilation."

Mr. President and Gentlemen,—The subject which I beg leave to bring before you this evening (my system of the ventilation of buildings) requires no proof of its actual necessity, or of how important it is in a sanitary point of view, you all know its importance just as well as I do. My system of ventilation I wish to be considered and discussed, by this Society, and that they would give their fair and candid opinion upon it without any prejudice. If you find it what I believe it to be, you will give me credit for it; if on the contrary you differ from me you will honestly give your reason why. Allow me for a moment to digress. I know there are many in this city, whom I fear are very ignorant of any system of ventilation, and when speaking on the subject begin to sneer at all systems. Men of such pretended knowledge, may (perhaps inadvertently) do a great deal of harm, without being able to offer any opinion, or suggestion, that would be of any benefit in a question of such vital importance. The majority of the medical and scientific men of the present day, have embarked in the subject of ventilation in order to secure some certain means of preserving the health of their fellow creatures. It is not the time through selfish motives, or egotism, to oppose instead of endeavouring to forward it. If such men are not capable by their own talents to add something to science, at least they should do so by encouraging all and every individual who is working hard for the sake of humanity. I believe, sir, it is a recognised fact that Dr. Parkes of the Royal Victoria Hospital, Netley, England, is one of the best authorities, in the present day, upon Hygiene, and I know that the high and responsible position that he holds, is due to his work on that subject. He certainly has grappled with the matter well, and has proved the errors of many old and new theories. So far as wind sewerage and foul gases are concerned, I have carefully studied his work and have adopted his theory: that foul air should be drawn off above, and not below the person, and that pure air should be admitted in a similar manner. That the great object in ventilation was to expel foul air as soon as possible after it was exhaled or generated, and admit pure air to take its place. That there should, in fact, be two distinct currents always going on in the place to be ventilated, and all this should be done without producing sensible draught.

Dr. Parkes in his work gives all the different means that had been invented to accomplish this end and concludes that they were all imperfect from one cause or another. To depend upon the wind was absurd, for we have no control over it, and when most wanted, very frequently there

was none; again it changes so often that tubes which a few minutes before were outlets, suddenly became inlets, and very frequently all the shafts would be inlets or outlets. Heat, steam, water, and horse power were all found too cumbersome, or expensive for general use; so all were given up in turn or left in their imperfect state, I suppose on the principle, better something than nothing, and that the very look of the thing made people believe that ventilation was going on. Observing these facts, I turned my attention to see if I could not invent some means to carry out Parkes' theory (independant of heat, steam, water, horse or man power). To ventilate my most miserable make shift of a building, crowded with the very worst class of lunatics, no man could have a better opportunity than I had of experimenting. My first set of experiments were to find out how impure gases were diffused through a chamber where there was no means of admitting pure air, nor any means of expelling foul. The result of these experiments was, that the foul gases were pretty equally diffused through the chamber, but that there was a greater quantity higher up, than lower down. From many such experiments I found that the room began to fill from above downwards. My next experiment was to see if I admitted air into the chamber upwards and inwards, (and this idea was my own) without any exit shaft, what would be the result. It was that I found the first effects of impure gas, about 9 ft. from the floor, but generally *all* my tumblers of lime water and leaded paper became affected in a more or less degree. My next experiments were the same as the last, with this addition, that I made an exit shaft through the roof of the Asylum, and put a moveable cowl upon the top of it. When this shaft acted as an exit, which was not always, I found that the pure air was below 7 ft. and near the floor; and that from 7 to 10 ft. was the greatest quantity of impure gases, though heated air was much higher, and while the air under 9 ft. was heated, yet there was but very little impurity in it. This experiment I tried very often, before I was satisfied with it, because as I have already said, sometimes my exit shaft acted as an inlet, at the very time I wanted it to act as an outlet.

From the foregoing experiments often repeated I came to the following conclusions:

1st. That the proper height at which to expel foul air was between 7 and 10 ft. from the floor.

2nd. That external air when admitted above the head inwards and upwards causes no sensible draught upon the person.

3rd. That this air when colder than the internal air fell down towards the floor and while passing through the heated and foul air, though it

became in some degree heated, was not impregnated, but very slightly effected with impure gases, it after descending kept floating up the impure gases; in fact there were two distinct currents, the foul gases and heated air *ascending*, the cold pure air *descending*. I know that the question has been asked "How can pure air pass through impure gas and not become impregnated with it?" The answer to this question is, that air is a mechanical mixture and not a chemical compound, and I do not say that if the foul gas is not drawn off, and that quickly, that the whole will not become *impregnated* and impure. But if, according to my system, the foul air is drawn off quickly, there is hardly time for the pure air to become even soiled. Here I wish it to be particularly understood that I do not say heated air is foul air, but that heated air and heated carbonic acid and sulphuretted hydrogen gases are lighter than pure cold air and consequently are floated up together, — the heated pure air, however, ascending much higher than the heated impure gases. In fact, the heated pure air will rush out through an open shaft if there is any draught, whereas the impure heated gas, as soon as it gets cold in the shaft, will fall down again unless there is a strong power to force it through.

The foregoing facts founded upon experiments, led me to put tubes through every part of the Asylum, all connecting with the main shaft that ran out through the roof of the house, and had a cowl upon it.

It was at this time that I invented an instrument for the admission of pure air into buildings and which for want of a better name I called a ventilator. One of these ventilators I placed in every window of the Asylum in the place of a pane of glass. You will ask me did these ventilators, exit tubes, and movable cowl purify the Asylum? I at once answer *No*. The state of the Asylum was very much improved indeed, but it was by no means perfect ventilation, simply because my exit shafts as often acted as inlets as they did outlets, and when there was no wind there was no draught in the shafts at all. I then invented an exhausting machine to take the place of the cowl, its movements however depended upon the wind; when it was working it did purify the Asylum perfectly, but when there was no wind it was of no use. It had one great advantage over the cowl, and that was, that I never had, with it, down draughts. I, at that time, frequently tried my experiments over again till I became perfectly certain that I had got the right mode of ventilation, if I could only succeed in having a motive power to work my exhauster, or foul air-expeller, independent of wind, steam, water or horse-power. I saw that the true principle was to have such a force as would suck up the foul gases independent of the pressure of the air

from below, in fact, that it should be pumped out, as water is from a well. I say I determined, if possible, to invent a foul air expeller, respecting which I would be certain that its action would be always equal, and independent of wind or weather. To accomplish this has caused me many a weary hour, and many a sleepless night, and more money than I am inclined to tell. Generally the fault was some miscalculation, or some mathematical error, and again the fault would be, want of a perfect machinist capable of carrying out my views. Often I felt inclined, and was advised to give it up; but I still persevered, and I now feel satisfied that success has crowned my efforts. The machine which hereafter I will describe takes a man six minutes to wind up, then it runs for twelve hours, in fact it runs 20 inches of cord an hour, so if you have sufficient fall for the weight, you can run it as many hours as you please.

It was visited by a number of scientific gentlemen from Montreal, some of whom are here present. They found that I had a main tube made of tin, air-tight, and 8 inches in diameter, runing from one end of the Asylum to the other (130 ft.) which terminated in the transit shaft of the machine, Into this main tube there were 20 tin tubes from the different apartments of the Asylum to be ventilated; these were four-inch tubes, and I told the gentlemen present that I feared I was giving the machine more work than it could do. Some days afterwards, upon close examination, I found that all the tubes did not draw with the same force, and that the tubes furthest from the machine were those that were working best. After spending four days trying to find out the cause of this, I concluded that my four-inch tubes were too large and that the pressure of the air from below upwards was acting in some degree upon the shafts, when my object was that no air should be removed except by suction, like a pump sucking water out of a well. I removed the four-inch tubes and replaced them with one-inch tubes.

The effect was most satisfactory, the suction immediately became equal in the twenty tubes, and much more powerful, drawing a much greater quantity of foul air than with the four-inch tubes. I by this discovered that the machine is fully capable of exhausting 20 one-inch tubes, 10 two-inch tubes, 5 four-inch tubes; so, to ventilate any building now is a mere matter of calculation. When I had this work perfect, I made the following experiment. In the women's day room, where there were two exit shafts and a ventilator in each window (that is four windows,) there were in the room 36 lunatics. The room is 31 by 39 ft. and 12 ft. high. I placed graduated tumblers of lime-water from the floor to the ceiling, and did the same with leaded paper, I

also placed three thermometers on the same post, one on the floor, one at 7 ft. and one up close to the ceiling; the exit tubes are 9 ft. from the ground. After leaving these for four hours, the following was the result. There was hardly any change in the lime-water, and papers, except between 7 and 10 ft., even here it was not very visible; the thermometers ranged thus, the one close to the floor 70°, the one 7 ft. from the floor 74°, and the one 12 ft. 80°. This experiment fully proved the pure state of the chamber. *Secondly.*—That where foul gases was to be found was between 7 and 9 ft. *Thirdly.*—That though the heat was greater at the ceiling it did not bring up with it the impure gases, but that the pure air floated it up to the height from which it was drawn off, viz: 9 ft.* *Fourthly.*—That through the cold outside air admitted from above inwards and upwards, was to be found nearest to the floor. You may say what benefit is to be derived from the charcoal and small piece of cotton wadding in the ventilators: Is not the outside air pure enough? I answer you that in the first place, the cotton wadding breaks the force of the wind and obstructs the entrance of organized and disorganized matter; secondly, that the outside air is not always pure, and the carbonic acid gas is absorbed in the charcoal. As a proof of this, I made the following experiment on Saturday the 22nd of this month. I placed in the sleeping room of the men and in that of the women also (no one being in the rooms), a glass of lime-water. I also placed one in the sitting-room of the women (42 present) one in the sitting-room of the men and one on my gallery in the open air. After three hours the following was the result: in the sleeping rooms there was not the slightest sign of carbonate of lime; the water in the open air and sitting-rooms were alike,—just sufficient to see that there was a change in the water.

The exhauster expels 4,500 feet of air every hour. It will therefore entirely change the air in a building 90 ft. long by 60 ft. wide by 20 ft. high once a day.

If the exit shafts open 9 ft. from the ground of the occupied rooms, it will pump up 54,400 feet of foul air every 12 hours. The area of the inlet, that is, where the air enters the fan box, is 144 square inches, the area of the outlet, or where the air is thrown off from the fan is one-eighth of this, or 18 square inches. The circumference of the fan box is 11 inches, and the velocity of the fan is twice a second or 120 revolutions a minute. I think, gentlemen, you will agree with me that my experiments are conclusive and that I have carried out my theory to a practical result.

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* According to Haswell's Tables and formula.

Dr. GEORGE W. CAMPBELL said it had afforded him much pleasure to listen to Dr. Howard's paper. The merit of his discovery was the proposal to pump out all the foul air.

Dr. TRENHOLME enquired if Dr. Howard knew the exact amount of foul air which he expelled in a given time.

Dr. HOWARD said he had given it to one of the best mathematicians in the County to work out, and his result was 54,000 feet every twelve hours.

Dr. TRENHOLME asked if when Dr. Howard reduced the size of his tubes from one to four inches, the fan revolved more rapidly, and if the same amount of foul air was expelled.

Dr. HOWARD said it did, and the foul air expelled was the same, upon the same principle that a similar quantity of water was sent through a small hose as a large one.

Dr. REDDY enquired the length of the exit tube.

Dr. HOWARD said its width was one-third of the whole circumference; its length—as you choose. There was always more foul air at the exit of the tube than at any other part.

Dr. DAVID asked if Dr. Howard could assign any reason why the foul air did not rise higher than 9 feet.

Dr. HOWARD could not assign any reason—but that it was a fact he had frequently proved.

Dr. CRAIK said Dr. Howard explained that the gasses were heavier than the heated air, which being lightest goes to the top—the foul gases go up till they become the same weight as the air, and then stop.

Dr. TRENHOLME would like very much to see Dr. Howard's experiments carried out in a large and lofty room.

Dr. R. PALMER HOWARD, said that Sulphuretted Hydrogen, and Carbonic Acid were heavier than atmospheric air, and when heated were still heavier, and that the position of the foul gases, as discovered by Dr. Henry Howard, were just such as we would naturally expect from well-known physical laws. If the room should be 20 feet or more high—the height at which most foul air would be found, would be more than 9 feet, but this did not affect the discovery, which he considered an invaluable one. The simplicity of the clock work was admirable, steam being very expensive. The revolution of the fan must produce a vacuum, and it was a mere matter of calculation as to the size of the receiver. The economy of cost and its certainty of producing a vacuum were points of merit in the invention.

Dr. G. W. CAMPBELL suggested the idea that in cities it might be cheap to drive the fan by water-power, a very small pipe would, he thought, answer the purpose.

Mr. ROBERT MITCHELL, (steam fitter, &c.,) said water was far too costly to be used for such a purpose, in fact, it was the most expensive method that could be adopted.

Dr. CRAIK desired further light on the subject. He felt somewhat uneasy as to how the heating of houses in winter would be affected, when this method of ventilation was adopted.

Dr. HOWARD replied that the past winter had been an exceedingly cold one, and so far as he had observed in the Asylum at St. Johns, the temperature of the building was not effected in the most remote degree; the ventilator was open all the time, and there was not the first complaint of cold. The Asylum was heated with wood.

Dr. CRAIK asked if he (Dr. Howard) thought that the same result would have been arrived at if the place had been heated by steam or hot air.

Dr. HOWARD said he had no experience upon which to base a reply, but he thought under circumstances such as were mentioned by Dr. Craik there might be a little loss, but not sufficient to make it of the least importance.

Dr. CRAIK enquired if Dr. Howard had tested for organic impurities in the gases. Condy's fluid in tumblers would give the means of testing for them. These organic impurities were drifted by currents, but when these ended they gravitated downward.

Dr. FENWICK said this question had already been settled. Many impurities adhere to the walls of the room, and also to the bed clothing.

Dr. LAROCQUE asked if he had tested for the amount of vapor in the atmosphere.

The Society then adjourned.

MEETING HELD 3RD JUNE, 1871.

The Vice-President, DR. PELLETIER, in the chair.?

Dr. FRANCIS W. CAMPBELL read the following paper on "Vaccination and Re-Vaccination":

MR. PRESIDENT AND GENTLEMEN,—The fact that during the past winter and spring, Small Pox has been epidemic in all the large seaport towns of the Mother Country, as well as in many of the continental sea-ports, has, naturally enough, excited our fears that with the opening of navigation it would make its appearance among us. The St. Lawrence being the great highway to the West, it was reasonable to expect that among the many thousands who would pass directly through or sojourn for a few days, there would be some, who bringing the seeds of infection with them from the other side of the Atlantic, would simply

arrive here in time to see it give ample evidence of its character. That in such expectations we have not been disappointed, the records of the Montreal General and the Toronto General Hospitals, bear witness. Emigrants in the first stage of the disease have entered both these institutions, within the last few weeks, and one case at each institution has proved fatal. With the prospect of this loathsome disease becoming epidemic among us, the attention of the public naturally turned to Vaccination, as their safeguard and preventative. "Present arms" was a command often heard I believe in most surgeries in Montreal, during the past three or four months. Having, since the 1st of January of this year, in my capacity as Public Vaccinator and private practitioner, vaccinated upwards of a thousand persons, my attention has been directed more than usual to the subjects of Vaccination and Re-Vaccination, more particularly the latter. I have, therefore, thought that a few remarks upon these subjects might not be devoid of interest to the members of this Society. I would confine myself entirely to the latter branch of my subject, did I not feel that the whole subject of Vaccination is one, concerning which the junior members of the profession know comparatively but little. The early history of Vaccination is full of interest and will well repay a moment's attention. Its literature is scanty, and even the one or two works that within the last five years have made their appearance, give but a brief summary of the many important reports which have been issued on this subject, during the last fifty years.

Cow Pox, or Variolæ Vaccinæ, is a disease having a specific eruption, of a vesicular character, and limited in its appearance (as a rule) to the udder and teats. The most common time for its appearance are the early months of spring, and the early part of the autumn. It seldom attacks other than milch cows. There is a period of incubation which in the natural disease is presumed to be about three days. Ceeley, however, says he believes it may be prolonged a day or two. The earliest symptoms noted are heat, swelling, with considerable tenderness, of the udder, soon after which hard papules the size of a pea commence to develop themselves. These gradually increase in size, and in about four days from their first appearance they begin to take on a vesicular form, with a central depression. The vesicle gradually increases in size, till all have attained their full growth, which varies from that of a pin's head to that of an English sixpence, and is reached in from ten to twelve days from their first appearance. In number they vary from two to twenty. Their colour varies according to the colour and texture of the animal's skin, but they always have a glistening metallic appearance. In

cases where the vesicle has been allowed to dry without removing lymph from it, Seaton says it takes on a brownish-black appearance. In several cases of the disease, which occurred among Mr. Stephen's herd of imported Alderneys some two years ago (and which I was privileged upon two or three occasions to visit, in company with Professor McEachern of the Veterinary School of this city, under whose care they were), the dry crust, several of which I obtained were all more or less clear, and resembling much the appearance of very fine Gum Arabic. Although I examined the udder and teats as closely as the irritable temper of the animals would permit, I failed to find any fully answering the description given by Seaton. This brief description will, I hope, enable the members of this Society, not previously familiar with it, to recognize the disease, should they at any time be on the look out for it, or should opportunity put a case in their way. The plate (*Plate I.*) I now exhibit is from Ceeley's report, and illustrates the Casual Cow Pox in the teats and udder of a black and white milch cow. The disease is at its acme, the skin of the animal being fair, a slight areola is visible around some of the vesicles, many of which have the blueish, metallic appearance already alluded to. It exhibits papulæ, vesicles with central crusts, unacuminated and acuminated vesicles, imperfectly developed and broken vesicles. The large reddish crusts are due to rupture of the vesicles, from rough handling in milking, and are discharging blood, lymph and pus.

(*Plate II.*)—Figure 1, exhibits this appearance in a more marked degree, with the teat greatly swollen. It is taken from a cow in the second week of the disease. Figure 2 is the teat of a cow with fairer skin, exhibiting perfect cicatrices, cicatrices with secondary crusts, raw and imperfect cicatrices, and a crust still adherent on the base of the teat.

THE AFFINITY EXISTING BETWEEN HUMAN SMALL POX AND COW SMALL POX.

At the outset of his enquiry, Jenner believed that the Cow Pox originated from the disease in the horse, generally known by the name of *Grease*. This idea he lived to correct. It is now well-known that the horse as well as the cow is liable to a vesicular disease of a variolous nature, and that lymph taken from a horse, suffering from the Horse Pox, and inserted into man, will produce an affection in all respects like that derived from the cow and equally protective. The illustrious discover of Vaccination at the very outset styled the Cow Pox *Variolæ Vaccinæ*, and that he had good reason for adopting this pregnant desig-

nation, subsequent investigation has fully proven. Many of his cotemporaries derided him for it, but with admirable sagacity he adhered to his own views. Let us for a few moments recur to the idea involved in this designation. It implies that one *Genus* of the inferior animals is liable to a disease of a kindred nature with that which attacks man, the latter, for the most part, being pestilential and fatal, the former nearly always mild and scarcely ever pestilential. In Jenner's time, the practice of inoculation had long been in use to diminish the mortality of human Variolæ. Casual observation had taught him, that an affection derived from the cow protected from subsequent attacks of that disease. This led Dr. Jenner to conclude that the protecting power arose from the impregnation of the constitution with a mild species of Small Pox, instead of the malignant sort, which is usually propagated from man to man, either naturally or by inoculation. This idea guided him through all his investigations and finally led him to his great discovery, viz: the successful transmission by inoculation of the mild and safe affection from the inferior animals, instead of the contagious and malignant Small Pox which had so long devastated mankind. His confidence in this practice, arose from his firm conviction that these two disorders, however different they might be in some particulars, were in reality identical. I need hardly say that this theory found many bitter opponents, the disease arising from the cow being imagined to be an antidote, not a safe and effectual substitute for a more malignant form. Up to the time of Jenner's death, the various controversies that raged, consisted in assertions and counter-assertions, as to the alleged virtue of the disease derived from the cow. Subsequently, however, this portion of the subject was warmly investigated, and in 1840 the Provincial Medical and Surgical Association of Great Britain through a Committee appointed the previous year, brought forward at their meeting held at Liverpool, a masterly report upon Vaccination, in which this section of the subject was fully entered upon. The report says "The light thrown "upon the whole subject by these enquiries respecting the diseases of "the inferior animals is very striking and peculiar and completes that "chain of evidence which leads us to our great conclusion. It has been "shown by unquestionable evidence, that cattle and other animals have "for centuries been known to be affected with Small Pox, or Variola. "This latter appellation has unhesitatingly been given to the disease, "by every different writer who has seen it, by Dr. Layard in England, "by Fracastorious, Ramazzini and others in Italy. The disease de-"scribed by the authors above-named was of a malignant character and "destroyed the cattle, almost as extensively as Small Pox did the

" human race. It raged in England in 1745 and in 1770 and even as " late as 1780; at this time Dr. Jenner was carrying on his investigations, " and it was in this very year that Dr. Layard published his paper on " the transactions of the Royal Society, in which he mentions that inocu- " lation from the cow was successfully practised to mitigate the severity " of the disease. It is believed to have been the remains of this violent " Epizotic that Jenner found in Gloucestershire, and which being oc- " casionally transferred to milker, secured them from subsequent Small " Pox. These various epizoties may be traced in the most authentic " Medical Records for several hundred years, and the connexion between " them, and pestilences which have ravaged both man and the inferior " animals, throughout the ages of the most remote antiquity, may be " discerned with much greater accuracy than at first might be im- " agined. It is likewise worthy of remark that the countries where the " disease has of late years been found either on cows or horses, are those " where it has formerly been known to have existed among them in its " most virulent form. * * * * * We have further to observe than an " affection of a precisely similar character was witnessed in a dairy in " Gloucestershire in 1825. The Veterinary Surgeon who saw it, " described it as a malignant case of Cow Pox, the whole skin from the " base of the horns to the end of the tail, and down to the hoofs being " covered with the disease. It killed the animal, and extended through " all the cows in the dairy, between forty and fifty in number. This " exactly agrees with the variolous epizotic described by Dr. Layard in " 1780 which he said ' bore all the characteristic symptoms, crisis, and " event of Small Pox.' " Mr. Gibson writing in the *transactions* of the Medical Society of Bombay says " Small Pox carries off many persons annually, particularly in remote districts. * * * * *The same disease is at times very fatal among cattle*, they become weak, and feverish, and are unable to eat in consequence of the pustular eruption on the lips, tongue and throat." All these facts I believe go to prove that the Vaccine disease is not a preventative of Small Pox, but in reality is the Small Pox itself. In order, however, to still further prove this asser- tion, it is necessary to show that human Small Pox can be communi- cated to the cow, in like manner as the disease of the latter has been communicated to man. The first fact I will mention occurred on this continent, and is detailed by Dr. Waterhouse of Cambridge in a letter to Dr. Jenner. He says " at one of our periodical inoculations, which occur in New England once in every eight or nine years, several people drove their cows to an Hospital in order that they might have the benefit of their milk. These cows were milked by persons in all stages of Small

Pox; the consequence was, the cows had an eruptive disorder on their teats and udders, so like the Small Pox pustule that every one declared the cows had the Small Pox." Many unsuccessful efforts were made by various individuals in England to put this question beyond dispute, by directly inoculating the cow with human Small Pox. At the Veterinary College in Berlin in 1801 it is said to have been successfully accomplished for the first time. The Saltzburgh Medical Journal for 1807 says that Gassner had successfully inoculated the cow with variolous matter. Dr. McMichael, in 1828, in a paper read before the Royal College of Physicians, says "Vaccine matter having failed in Egypt, medical gentlemen were lead to institute certain experiments, by which it has been discovered that by inoculating a cow with Small Pox from the human body, fine active vaccine virus is produced." Professor Sunderland of Bremer, it is said about this time, succeeded in producing the disease on cows, by covering them with sheets, upon which persons labouring from Small Pox had lain. Notwithstanding that the proofs were slowly getting stronger, as to the unity of the two diseases, the profession as a body continued skeptical, (as I believe even to-day many are skeptical) until the experiments made by Mr. Ceeley of Aylesbury were made public. This gentleman read his paper on Variolæ Varionæ before the Provincial Medical Association of Great Britain in 1840, and up to the present day it is the authority on the subject. After many failures he succeeded in infecting two cows with the matter from human Small Pox and obtaining from them beautiful vesicles, from which source many hundred children were vaccinated, who exhibited all the phenomena of Vaccination in the most perfect form and complete degree. The Vaccination Section of the Provincial Association were furnished with some of this lymph by Mr. Ceeley, and they reported that it "produced the most regular vesicles, which in every respect corresponded with those so beautifully delineated by Dr. Jenner in his first publication."

(*Plate IX.*)—Represents the first successful variolation of the cow or inoculation from lymph of human Small Pox. The following is a brief outline of this experiment. Mr. Ceeley made seven punctures near the left *Labium Pudendi*, and inserted variolus matter. On the 9th day after he vaccinated the same cow on the right *Labium Pudendi*, with lymph of the fifth, sixth and seventh day from a child. On the tenth day after the insertion of the variolous matter one of the punctures on the left *Labium*, had assumed the form of a Vaccine vesicle. (Plate 9 shows the experiment on the tenth day, on left side is variolous

vesicle, on right side is seen Vaccine punctures of the previous day, when variolous punctures were in a doubtful condition.) From this variolous vesicle, he abstracted on the tenth day a considerable quantity of lymph.

(*Plate X.*)—Shows the experiment on the eleventh day; the variolous vesicle is duller from the abstraction of lymph, and the Vaccine punctures show signs (third day) of taking.

(*Plate XI.*)—Illustrate the experiment on the twelfth day.

(*Plate XII.*)—Shows the experiment on the thirteenth day. It will be noticed that both the variolous vesicle and the Vaccine vesicles continue to advance. This is the fifth day of the Vaccine vesicles, and from them lymph was taken and used successfully on both children and adults.

(*Plate XIII.*)—Is the fourteenth day and represents the variolous crust at its maximum of developement with a large central crust. The Vaccine vesicles to-day (seventh) were at their greatest developement.

(*Plate XIV.*)—Both description of vesicles are declining. This was the seventeenth day of the experiment. From this date both the variolous and Vaccine vesicles ran a nearly parallel course, so that on the twenty-sixth day of the former, and the 17th of the latter, the scabs of both appeared perfectly similar. To obviate any objections which might occur from the introduction of the Vaccine lymph as mentioned in the previous experiment, Mr. Ceeley inoculated another cow, on the *Labium Pudendi*, with Small Pox matter of the seventh and eighth day.

(*Plate XV.*)—Represents the experiment on the fifth day.

(*Plate XVI.*)—Represents the experiment on the sixth day.

Lymph was to-day taken from the outer and lower vesicle on the right.

(*Plate XVII.*)—Eight day of the experiment, lymph was again taken from same vesicle as on sixth day.

(*Plate XVIII.*)—Ninth day; lower vesicles raw from injury in obtaining lymph.

(*Plate XIX.*)—Tenth day.

(*Plate XX.*)—Twelfth day.

(*Plate XXI.*)—Represents the experiment on the twenty-third day of the variolisation. This cow was subsequently inoculated both with variolous matter, and Vaccine matter, but no result followed, pretty conclusive evidence it seems to me of the unity of the two diseases. In neither of the experiments just briefly detailed, did Mr. Ceeley note any indisposition worthy of mention. The lymph that he obtained from both these animals was used upon a large number of persons. In some

it failed entirely, in many it produced papules destitute of lymph, and in very few were perfect vesicles formed. It was not until it had undergone four or five removes, that it produced good vesicles. Indeed it is impossible to read Ceeley's interesting paper detailing his various experiments, and his account of the phenomena exhibited by human subject vaccinated by him with the lymph generated by the variolation of the cow, without recognizing that we are reading over again the whole story of the inoculation of the human subject with primary cow pock. There was the same difficulty in making the vaccination take, the same occasional occurrence of imperfect results, the same retardation in successful cases of the papular and subsequent stages, and the same activity of local symptoms as are noticed when primary cow pock lymph is used.

(*Plate XXII* and *Plate XXIII.*)—Illustrate the accidental inoculation of an assistant of Mr. Ceeley, with variolous matter, who had been vaccinated and subsequently had modified Small Pox.

(*Plate XXIX.*)—Represents Vaccination of a child with lymph taken from a child who had been vaccinated with matter taken from a cow itself vaccinated with humanised lymph, (three upper vesicles) also two lower vesicles with variolous matter passed through the cow.

Before leaving the subject of the identity of the two diseases I will briefly mention a most interesting incident which occurred while Mr. Ceeley was engaged in his experiments. Eight milch cows had the cow pock induced in them by variolous effluvia. They, with two sturks, were turned to graze in a meadow, in which the clothes and bedding of a person who had died of malignant Small Pox, had previously been exposed night and day for a week and in which they were at one time left a portion of the day, when the cows were there. One of the cows was noticed at one time in the act of licking the bedding. Within 12 days after their admission to the meadow five of the milch cows and one sturk, simultaneously, or almost so, exhibited well-marked cow pox, and from these the disease communicated itself to the hands of several of the milkers. The simultaneousness of the attack, shows a common cause, and the period of latency points to variolous effluvia.

Retro-Vaccination, or inoculation of cows with vaccine lymph that has been passed through the human system an unlimited number of times, deserves a passing notice. At the present day many who have not examined the subject, are calling loudly for the adoption of this plan as a means of renewing what they are pleased to term, *the worn out vaccine*. The truth of the matter is, the successful performance of the operation is one of exceeding difficulty, and so far as I can gather no

benefit whatever attends the transmission. When vaccinated back to the human subject it produces results, though with less infectiveness, during the first two or three removes; in other words till it is again humanised, than the results of ordinary vaccination.

(*Plates III, IV* and *V.*)—Exhibit the appearances produced on the udder of the cow by humanised lymph.

As a summary of the preceeding pages I claim to have proved the following:—

1st. That cattle in many ages, and different countries, have been afflicted with Small Pox.

2nd. That this disease has existed among the inferior animals simultaneously with Small Pox in man.

3rd. That it appeared among the cattle in England at various times during the 17th century, and that even comparatively recently it has shown itself with considerable severity.

4th. That when the disease appears among the inferior animals in a malignant form, it produces by inoculation a disease of similar severity in man.

5th. That as man has received this affection from the cow, so likewise has it been produced *in* the cow from man.

6th. That the direct inoculation of the cow with human Small Pox, has produced a mild and mitigated disease, and that such disease reproduced by inoculation on man accords entirely in its character, in its progress, and in its protecting influence with the Variolæ Vaccinæ, as described by Dr. Jenner, thus irresistably proving his fundamental proposition, that Cow Pox and Small Pox are not dissimilar, but identical, and that the Vaccine disease is not the preventative, so to speak, of Small Pox, but the Small Pox itself.

The operation of Vaccination is one, apparently of so trivial a nature that it may seem hardly worth while to occupy even a few moments of your time in alluding to it, yet when we consider that so much depends upon its being properly done, it may justly assume importance in our eyes. Having, since 1862, occupied the office of Public Vaccinator for a considerable section of the city, and during that time vaccinated several thousand persons, I have had ample opportunity of trying the various methods for Vaccinating, as well as discriminating between the relative value of arm to arm Vaccination, the use of liquid lymph in capilliary tubes, and the dry scab, or crust. First then allow me to say that the method I now invariably adopt is to make use of the *perfect* scab. In this matter there is room for the exercise of much caution, and it would be ill advised to use crusts from even healthy children

without having subjected them to the following easy examination. The scab should be held up to the light, and if it presents a mahogany colored semi-transparent centre you may put it aside for use, first having taken care to cut away from around it, the few drops of pus with epithelial scales that have dried with it. Enquiry should also be made to ascertain if the vesicle had ruptured in its course; if it has I would advise its rejection. In my early experience as a Vaccinator I found many scabs, which had in their course been accompanied with considerable constitutional disturbance, all but destitute of vaccine matter, being nearly perfectly clear when examined by the light test. Enquiry as to the cause, at once showed me that in, I think every case, there had been an early rupture of the vesicle with a copious discharge of clear liquid lymph. Having selected my crust I shave a portion of it down upon the back of a plate or saucer, and add a drop or two of *cold* water, and work it into a ropy solution. Taking a quantity of this solution I smear the portion of the arm I intend to vaccinate, freely with it, and then make what I term the tartan cut, viz.: a number of parallel scratches, with cross scratches. Care must be taken not to draw blood freely, for I find when this is done, the chances are decidedly against the success of the operation. If the child is pale I use a moderately blunt lancet. If the child is florid, with a fresh looking arm, I make the scratches with a fine needle. With this method, which is in many respects similar to the plan generally adopted by the profession in Montreal I have had very great success, and have succeeded in getting vesicles, filled with lymph, and ending in large dark brown mahogany crusts. The method of arm to arm Vaccination I have tried several times, but the vesicles and crusts which have followed have not shown any superiority over the first named method, while the difficulty attending it is such as to prevent its being adopted in this country—even anything like universally—for many years to come. The last method I will notice (although there are others) is that by means of liquid lymph preserved in capilliary tubes. This is highly recommended by many in England, and during one whole year and a part of a second, I adopted it in my practice, but for constant use have now abandoned it, being satisfied that the results obtained are not one bit better than what I always obtain from a first-class vaccine crust. The collection of the lymph in capilliary tubes is a matter of considerable trouble. According to Seaton, the vesicle should be punctured before the areola makes its appearance. As experience has taught me, no particular day, as a rule, can be relied upon for the areola to appear, it requires somewhat close watching to get the vesicle in the ripe condition which is

desirable. I need hardly say that in this country, where fees for Vaccination are so small, this is a serious drawback to this method. Why it is that the lymph is not to be used after the areola has made its appearance, has always seemed to me an anomaly, when the dry crust is so successful, and I have not been able, in all my reading, to find an explanation for it; but that the direction is a wise one, I have had proved in my practice. Some two years ago I Vaccinated a beautiful child in three places, and on the seventh day called, armed with a supply of tubes. To my annoyance I was told that only a couple of hours previous to my arrival, two of the vesicles had burst. On examining the arm, I found a light areola of about three quarters of an inch in depth surrounding the vesicles, while liquid lymph was apparently streaming down the arm in considerable quantity from the two broken vesicles. I at once set to work, and charged fully thirty tubes, which I freely distributed to my friends. Of those that I kept not one succeeded, and I believe the same remark applies to those I gave away. The only use I now make of this means of collecting lymph is the following:—I find it a matter of some difficulty to preserve throughout our hot summers (when Vaccination is not being carried on) the vaccine crusts. I, therefore, always about the middle of May, charge a few tubes—and with them in the fall I start afresh my Vaccinations. The great objection, however, to this method of Vaccination is, in my opinion, the enquiry which forces itself upon our attention—whether the rupture of the vesicle in so early a stage as the seventh or eight day—or even during any period of its course—does not affect the constitution as to its liability to a subsequent attack of Small Pox. In cases where this has occurred, and Vaccination again performed within a short period, the vesicles have gone through all their stages as if nothing had been done before. In such cases there can not be any doubt but that the first Vaccination was worthless. In other cases, a second Vaccination has been followed by an irregular and incomplete effect. The explanation of this is not difficult, I think, of solution, and depends doubtless upon the period when the rupture takes place, and the amount of lymph which has been discharged from it. It would be well, therefore, that those whose views may lead them to adopt the collection of liquid lymph in capilliary tubes, should leave, at least, one and if possible two vesicles intact. Before leaving the subject of Vaccination I wish to allude to Bryce's test, many beautiful instances of which have occurred in my Vaccination practice. Mr. Bryce, of Edinburgh, very early in the present century, instituted many experiments to ascertain if the constitutional effect of the disease had taken place,

for he then stated, what is very generally believed now, that you may have a fair local affection, without the system being involved. Mr. Bryce argued that if the vaccine had not produced a constitutional effect, fresh lymph introduced upon the fourth or fifth day, would produce effects which would go through the ordinary periods of action, while, if the system was pre-occupied by the vaccine matter, the secondary vaccination would rapidly gain upon the primary till they were both equal, and finish their various stages together. I quote one case occurring quite recently in my practice. "Albert H———, Cadieux Street, was vaccinated by me in four places on the morning of Saturday, May 6th, 1871; on the afternoon of the 10th, I called and was informed the vaccination had not taken. On examining the arm it was difficult for me to decide whether to vaccinate again or to wait a day or two, but, as the mother was anxious for me to repeat the operation without delay, I vaccinated the child in four more places upon the same arm. I called on the 12th and found distinct evidence of the original marks having taken, and made considerable progress, while a faint flush in the neighbourhood of the last four cuts showed me that the whole eight were going to succeed. Fearful that so many vesicles would entail a severe constitutional disturbance I visited the child daily, and watched their progress. On the twelfth day from the original vaccination, the whole eight vesicles were quite equal in size, the areola around the first four being slightly greater in extent than around the four last. On the twenty-sixth day the whole eight crusts, nearly of a size, fell off. The constitutional disturbance was not more than would have followed an ordinary double vaccination.

Bryce recommended that his test should be systematically employed. This is too much to expect, and altogether unnecessary; but there may, now and again, occur cases where it may be well to employ it, and when it occurs, as it has done to me,—accidentally,— it is interesting to watch it.

As regards the vaccine lymph loosing its protective power by successive transmissions, the matter may be answered by the following quotation from Seaton's work issued some three years ago. He says:— "The lymph now in use throughout the Stations of the National Vaccine establishments is, if not exclusively, nearly all of Jenner's original stock, and from daily observation I can affirm that it has not lost anything of its infective power, and that the vesicles produced by it correspond accurately in their character and course with Jenner's description."

RE-VACCINATION.

I now come to the last, but not the least, important branch of my subject, re-vaccination. The time I have occupied, however, being already so great, I feel that I will have to condense much that I would desire to say upon it. It is only within the last fifteen years that the profession have at all regarded it with favour; but I think I may now safely say that there are few medical men who do not advise its adoption, although there is considerable difference of opinion as to the best time, or rather the age, when it is *necessary* to have it done. So far as I can judge, I think the majority decide in favour of puberty, unless there might be urgent reasons, such as the presence of, or a threatened epidemic of Small Pox, where all over seven or eight years had better be done. During the last few months I have re-vaccinated a very large number, and have met with a very large amount of success. Fully sixty per cent. of my re-vaccinations took immediately—a large proportion of those upon whom I repeated the re-vaccination a second time took admirably, and even among those who failed upon the first and second re-vaccination, some took when applied a third time. Altogether, I do not at all over-estimate the results, when I say that fully eighty per cent. of my re-vaccinations were successful, and their ages varied from seven years up to thirty years. The amount of success varied, however, considerably, and at twelve years, as a rule, I got the best results, in the appearance of large, healthy crusts; after twelve years I was not conscious of any increase in the size of the vesicle, or in the amount of constitutional distubance. There is considerable difference in my experience in the appearances of the primary and secondary crusts. The former are usually thick and round, with even edges, while the latter are very often as large as an English shilling—very thin—irregular in shape, and with a very irregular edge. I have made enquiry as to the amount of constitutional disturbance that accompanies the successful re-vaccination, and believe that, as a rule, it is greater than in a child with primary vaccination. With the exception of having used the crusts obtained from one very successful case of re-vaccination—in about thirty cases—all my re-vaccinations were made from the crusts of primary infantile vaccination. I always had a prejudice against the employment of secondary lymph, and was induced to make use of it from the following circumstances:—About the middle of March I re-vaccinated a strong young man from the Eastern Townships, who was in attendance at the Military School. The marks of the original vaccination were plainly visible, though

small, and somewhat smooth in appearance. I inserted lymph in three places, which produced three of the largest vesicles I ever saw, either on child or adult, with an excessive amount of constitutional disturbance, confining him to bed two days, and to the house two days more—the local phenomena being equally well marked. It so happened that he resided in the house of a family I attended, and nothing would do them but that the whole family should be vaccinated from this young man. I thought the opportunity of testing secondary lymph an admirable one, being at their own request, and accordingly re-vaccinated three children, from five to twelve, the mother, aged thirty, and a maiden lady residing in the house, who also expressed a similar desire. I had not made the insertions more than two or three minutes, when my attention was directed to a raised white lump, like that of hives, about half an inch in diameter, which surrounded the cuts, and which, in turn, was surrounded by a well marked red areola, at least an inch in diameter. I confess that this appearance somewhat alarmed me, and I, therefore, all but daily watched the progress of these cases. Nothing unusual occurred—they ran a normal course, producing good secondary crusts, with considerable constitutional effect. In brief, I may say I used the whole of the three crusts obtained from this young man, and in every case where it was employed, there was the same local phenomena immediately visible. The success I obtained from its use was quite equal to that of any primary matter. At this time I was not aware that secondary lymph had been used in England; but in the *Lancet* of April 29, of this year, the following forms part of the proceedings of the Obstetrical Society of London at its meeting on the 5th of April:—

"Dr. Branton showed a wax model of a successful vaccination per-
"formed with the lymph from a secondary vaccination."

"Mr. Eartees considered that the most obvious criticism to be that
"though occasionally lymph from a secondary vaccination might pro-
"duce a good vesicle, still it could not in general be depended upon."

"Mr. Wilkinson said he had several times vaccinated successfully
"with secondary lymph."

"Mr. Scott, had from necessity vaccinated a gentleman with secon-
"dary lymph producing perfect vesicles. As he was much exposed to
"contagion, Mr. Scott re-vaccinated him in three weeks with primary
"lymph and again vesication took place, but less perfectly."

I need hardly say that my consenting to employ, and afterwards for a time continuing to use secondary lymph, was simply for experiment, and that primary lymph should invariably be employed.

The *Lancet* of January 21st, 1871, says:—There can be but one opinion as to the wisdom, and even the necessity of it. (Re-v.) No sensible man will rely upon his primary vaccination, unless he lives in an unusually protected position. Only fanatics of the anti-vaccination order now talk as if the first vaccination were vaunted as a permanent protection against Small Pox. The profession should set forth the extreme importance of re-vaccination. The effect of the first vaccination clearly tends to wear out. From the early part of the century cases of Small Pox, after vaccination, have been increasing, and now amount to four-fifths of the cases. . . . . But here is the point—no cases are reported after re-vaccination. Re-vaccination, performed carefully, with fresh lymph, and plenty of it, will protect from the *disease absolutely*. At least such is the experience at the London Small Pox Hospital, where for the last 30 years the nurses have escaped the disease, and they were re-vaccinated before entering upon their duties, and I believe that the same remark applies to the other Small Pox Hospitals in England.

I have thus condensed into a few pages my own experience in the operation of re-vaccination, as well as a brief summary of the opinion of the profession upon the subject. Its importance and efficacy is denied by few, and I am certain would not be doubted by any, were they to investigate the subject, as it deserves. Indeed it will be news I am sure to some even in this Society to know, that the vaccination or re-vaccination of persons who have had Small Pox, has not only been recommended within the past few months, but actually carried into practice. Several cases have lately been recorded, where very fine vesicles have been produced in persons who have had Small Pox. The present epidemic in England has shown that secondary attacks of Small Pox have proved fatal, and experience shows that vaccination and re-vaccination together confer even greater safety than does an attack of Small Pox. This fact is, it appears to me another strong argument as to the unity of the two diseases, but perhaps the strongest of all was detailed by Mr. Henry Lee at the meeting of the Royal Medical and Chirurgical Society of London on the 9th of the last month. He mentioned that variolous matter had been taken from a Small Pox patient and cow pock alone produced.

SYPHILIS AND VACCINATION.

The transmissibility of syphilis and other diseases by means of the vaccine virus has been the great argument of the anti-vaccinators, but till the present time, no instance of this disaster have been proved, as

occurring in Great Britain. Within the last month, however, Mr. Jonathan Hutchison has brought forward at the Royal Medical and Chirurgical Society some eight or nine well authenticated cases, where syphilis had been so transmitted, and at the present moment a Committee of that Society are engaged in investigating the facts detailed by Mr. Hutchison. Seaton in his last work denies that syphilis is so conveyed; but even although a few isolated cases of apparent transmission should be brought forward, they would not weigh the weight of a feather in the scale compared to the lives that have been saved through the instrumentality of Jenner and his wonderful discovery of vaccination.

Gentlemen, I am done, I hope I have not been too tedious, but the vastness of the subject, with its very great importance, is my excuse for the length of my paper.

Dr. FENWICK mentioned that in the Proceedings of the Surgical Society of Ireland, cases of Small Pox were reported which proved fatal even after successful re-vaccination. The rule that Small Pox never followed a successful re-vaccination, as mentioned by Dr. Campbell was, therefore, not absolute, although in large Small Pox Hospitals it has apparently conferred almost complete immunity from the disease, none of the physicians, nurses, or other attendants having contracted it.

Dr. SCOTT enquired why vaccination should be performed at four different points. He had had thirty years' experience and had never used but one place to vaccinate and had been perfectly satisfied with the results. He believed that scratching so many places gave rise to much more constitutional and local disturbance than was at all necessary or advisable. He had used the secondary scab several times but it had never taken.

Dr. GODFREY knew a few cases in Montreal where persons had had Small Pox twice and in one case even three times; if this be the case we may readily conceive that there must also be exceptions to the absolute rule of protection by re-vaccination. He had this year met with some obstinate cases of skin disease from vaccinations practised at the hands of others. Had never met with this before this year—believed he has seen even pyæmia result and he thought it was this, especially, which had led to the fierce opposition to the Vaccination Acts which had been manifested in Great Britain.

Dr. FRASER said that with reference to the identity of the two diseases, his mind was not made up; he was, therefore, not prepared to express an opinion upon that point. With reference to the best method or plan of vaccinating, he had tried nearly all that had been recommended and finally had returned to the use of the dried scab, as recommended by Dr. Campbell, which he considered was the one which would

give most satisfaction. Vaccination from arm to arm was very good when it could be done, but it was frequently inconvenient for the parties to arrange to bring the children together; it should be done on the 8th day. With regard to *selection of a scab* for use, the Doctor recommended the rejection of a scab from any child which showed the slightest sign of skin eruption, and stated his belief that disease might be communicated by means of vaccination. Alluding to the recent cases of supposed syphilis acquired from vaccination, the Doctor said that Mr. Hutchison had so long paid particular attention to the subject of infantile hereditary syphilis that his evidence on this point must be considered of great value and not lightly to be put aside. Dr. Fraser further recommended the rejection of a scab from a child which presented any of the appearances characteristic of the scrofulous diathesis, and instanced a case in which he found that in using the crusts from any of the members of a certain family there was produced a large irregular pustule and a number of small pustules, enlarged glands, and perhaps some other form of skin eruption. Here, therefore, there was evidently something wrong with the matter itself, and from the same effects having been produced from *all* the members of this family we may fairly assume that the fault lay in the existence of some constitutional peculiarity, probably scrofulous. Of course, no medical man would dream of using a scab from a child presenting evidences of syphilitic disease. Some have asserted that this affection could not be communicated except a small quantity of blood was transferred to the arm together with the vaccine matter, but whether this be so or not, it is practically too fine a distinction to bear tampering with. For many years past he has had no difficulty in preserving a supply of scabs in a small, wide-mouthed bottle well corked. Last year his supply failed, and he got three scabs from the Medical Department of the Privy Council, and found them to answer admirably. The Doctor further remarked upon the usefulness of re-vaccination, showing that as we can never tell what persons really are protected by the previous vaccination, it may be our duty to re-perform the operation upon all.

Dr. Reddy remarked upon the occasional occurrence of a peculiar eruption during the course of the vaccine fever, and showed how annoying such cases might sometimes be. The eruption first appeared about the seventh or eighth day, was at first papular then vesicular; it disappeared about the fourteenth day.

Dr. Trenholme had a case sometime ago of a child in which there appeared high fever and a papular eruption, to the great alarm of the parents. Believed this was from decomposition of the matter acting

there as a poison, and thought it arose from the fact that the matter, after wetting, had lain for nearly a week between the glasses; he now always took the precaution of carefully washing the glasses just before using them. Dr. Trenholme then exhibited a fine vaccine crust which was the result of the vaccination of a young child directly from a heifer which was suffering from cow-pock.

Dr. GODFREY mentioned that he had preserved scabs in *Glycerine* and found them quite perfect after the lapse of two years.

Dr. FRASER questioned Dr. Trenholme's idea that the eruption described by him was the result of septicemia; such an appearance was not characteristic of pyæmia and none of the other symptoms of this grave affection were present.

Dr. BELL said that in the United States army they preserved vaccine crusts by imbeding them in fine white wax. In this manner he had seen crusts kept a very long time.

Dr. F. W. CAMPBELL, in replying to the debate, said he felt much gratified at the remarks which had fallen from the various speakers, but he regretted that the subject of the identity of Cow Pox and Human Small Pox, which he believed he had proven, had not called forth any discussion. With regard to Dr. Fenwick's calling in question the possibility of Small Pox succeeding a successful re-vaccination, he would say that while it was possible, it was not probable, and the words he had made use of were copied from a recent number of the London *Lancet*. Dr. Scott had doubted the advantage of vaccinating in four different places, but he (Dr. Campbell) thought that it was the duty of every medical man to vaccinate in at least three if not four places, when the weight of evidence clearly proved that those who had three or four good marks were vastly more protected than those who had only one or two. In Great Britain, public vaccinators were compelled to make four distinct insertions of vaccine matter. Dr. Reddy had alluded to the appearance in a few cases of a papular eruption. In his (Dr. Campbell's) experience this eruption was exceedingly common, and he believed it to be simply the Cow Pox, matter having thoroughly entered the system was thus eliminated by peculiarity of constitution. He believed it was quite possible to communicate disease by means of vaccination, but thought that a little caution would prevent its occurrence. He was certain that the benefits which the world had received from vaccination could not for a single moment be counterbalanced by even the accumulation of all the asserted cases of transmitted disease.

The Society then adjourned.

PERISCOPIC DEPARTMENT.

Surgery.

ON THE REMOVAL OF NÆVOID GROWTHS.

Mr. James F. West, F.R.C.S., senior surgeon to the Queen's Hospital, and Professor of Anatomy in Queen's College, Birmingham, writes to the *Lancet* on this subject:

Each case must be treated on its own merits. Thus there are certain cases in which the setting up of adhesive inflammation, and the consequent obliteration of the vessels supplying them by the injection of the perchloride of iron, by vaccination, or the introduction of heated wires into them may be advantageously employed. But this principle cannot be carried out in many nævi of the face, as a large, dense cicatrix is thereby produced, which is often very unsightly. The simple application of collodion, or of pressure by elastic pads, may cure in slight cases.

The destruction of nævi by caustics, again, is attended by uncertain results, and the consequent cicatrices are often deep and ugly, from the impossibility of our gauging the distance to which the caustics—as chloride of zinc, nitric acid, etc.—ought to penetrate the tissues.

The ablation of erectile tumors is probably the most perfectly reliable means of treatment, and this may be accomplished either by enucleation, the ligature, the knife or the écraseur.

Piecemeal excision or enucleation is often attended with great loss of blood, even where the adjacent arterial trunks have been compressed as completely as possible; and the little patients who are the ordinary subjects of nævi, bear hemorrhage badly. A comparatively trifling loss often proves so serious to the patient that the attacking of large subcutaneous nævi by this process would hardly be justifiable.

The same difficulty meets us in the use of the knife; and I cannot doubt that the older surgeons were just in laying it down as a rule that, in removing nævi, it was always proper to cut wide of the tumor, and on no account to cut into its mass.

The introduction of either hare-lip pins or of ligatures frequently fails to cure; the latter are especially unreliable with venous nævi of large size, owing to their becoming loose, even though the skin around the growths may not have been included in them. The parts daily diminish in size, so that ligatures have to be again and again applied to ensure the entire destruction of the tumor. Moreover, ligatures

often set up troublesome ulceration at the base of the nævi, from which occasionally severe hemmorrage takes place.

The advantages which, in my experience, the écraseur offers are, that hemmorrhage is avoided—an important element in all operations, but particularly so with children, and that you have a linear cicatrix and a comparatively small wound; and thereby prevent or diminish the deformity which, by other operative procedures, will almost of necessity be produced. Chassaignac, also, claims for it that less inflammatory action and less suppuration attend its use than that of the knife; and, consequently, that the wounds resulting therefrom heal more readily, and are less likely to be followed by pyæmia. On these latter points I will not now offer an opinion; but as to the smallness of the resulting cicatrix—a great desideratum in all operations about the face—and as to the freedom from hemorrhage, even when dealing with large growths of this kind, I am quite decided.

TREATMENT OF CHILBLAINS.

Mr. Fergus recommends sulphurous acid in this affection. It should be applied with a camel's hair brush, or by means of a spray producer. One application of this usually effects a cure. The acid should be used pure. A good wash for hands or feet affected with chilblains is sulphurous acid, 3 parts; glycerine, 1 part; and water, 1 part. The acid will be found particularly useful in the irritating, tormenting stage of chilblains.—*Clinn. Med. Repertory.*

CONGENITAL OCCLUSION OF THE RIMA GLOTTIDIS.

Dr. Louis Elsberg, of New York (*Trans. Am. Med. Assoc.*), presented to the Am. Med. Association a wax model of an interesting case of congenital occlusion of the rima glottidis, occurring in a young lady, 17 years of age. There is, as far as he has been able to discover, but a single other case of this character on record, and this was not published until after the present case had come under his observation. The latter case, a boy 11 years of age, was seen by Dr. Zurhelle, of Aix-la-Chapelle, in 1869, and published in the *Berliner Klinische Wochenscrift.*

IS IMPERFORATE HYMEN EVER HEREDITARY?

In answering this query affirmatively, Dr. Horatio Yates, Surgeon to the Kingston General Hospital, Canada (*Braithwaite's Retrospect*), mentions a family where two sisters and two children by a brother's wife had imperforate hymens. He regards these cases as too much to be called a coincidence, but clearly an example of an hereditary peculiarity.

ON CATARACT.

Haynes Walton, Esq., Surgeon to St. Mary's Hospital (*Braithwaite's Retrospect*), does not consider advanced age in itself an objection to operating if nothing else forbid. The best attainable results have followed extraction after ninety, in the hands of Sir W. Lawrence. The late Mr. Scott did the same operation on a female between ninety and one hundred. Dr. Walton has several times performed it to his complete satisfaction, after the eightieth year, and once as late as the eighty-sixth. Two cases of success are published after the patients have turned one hundred years each. Of course, after the seventieth year a person is less favourable for the ordeal of extraction, from a variety of circumstances and from contingencies inseparable from long life.

MEDICATED BOUGIES IN GONORRHŒA.

Dr. Schuster states that tannin mixed with glycerine at first forms a soft waxy substance, which soon becomes hard and brown, and melts in a moist atmosphere at the temperature of the body. Dr. Schuster has formed small pencils of this compound, which he inserts into the urethra of patients suffering from gonorrhœa. He has found the treatment by means of caustic injections (the abortive method) frequently fail, and that it occasionally produces violent pain, inflammation and hemorrhage. On the other hand, the treatment with slightly astringent solutions cures the gonorrhœa within a period varying from four to seven weeks, but is often followed by a troublesome gleet. The tannin-glycerine rods employed by Dr. Schuster are from three to four inches in length, well rounded at the extremities, and consist of thirty grains of tannin, one grain of powdered opium, and a sufficient quantity of glycerine to form a pastile. These rods are hard in winter and soft in summer. Before their introduction they should be dipped in warm water. They are to be left for from five to ten minutes in the urethra, and then withdrawn. As a rule they produce no pain. If, however, they be left in for an hour, or over night, more or less pain is caused, and this appears to be due to a combination occurring between the tannin and the mucus or pus, which becomes hard and acts like a foreign body. Dr. Schuster has had no case of orchitis following the use of these pencils, though he has thought it advisable to recommend the employment of a suspensory bandage, nor has he noticed any irritation of the bladder or prostate. In case of gleet, a rod may be left in for a few minutes, and a speedy cure usually results.—*Movimento Medico-Chirurgico di Napoli—National Med. Jour.*

THE EARLY SYMPTOMS OF SPINAL DISEASE.

In an article in the *New York Medical Journal*, October, 1870, by Dr. James R. Wood, of New York, on Pott's Disease of the Spine, he calls attention to the following premonitory symptoms:—

The early symptoms of carries of the spine are sometimes very obscure, and it is often difficult, more especially for those not familiar with its characteristic features, to form a correct and satisfactory diagnosis. A physician may, and many even those of high standing in the profession do, pass through a series of years of professional service without ever having a single case of the kind come under their observation; and as there are other diseases with symptoms somewhat analogous to this in its early stages, it is often confounded with them, and treatment instituted upon a false theory and pursued until an excurvation of the spine settles beyond all controversy the character of the disease.

The disease sometimes comes on insidiously; but, in a large majority of cases the attack is sudden and severe, the pains occurring spasmodically, and are provoked by mental as well as physical causes, such as fright, mirth, or violent passion. The pain is usually quite remote from the seat of disease, and may be experienced anywhere in the course of the nerves leading from it, or at their extremities. Consequently, it may be in the side, chest, stomach, bowels, or hips and lower limbs, just according to the locality of the disease. That is one reason why those not familiar with its symptoms (and no one, however great his experience, is infallible on this point) are so liable to be misled, and to confound it with other affections more commonly met with in those regions where the pain exists. The disease is, therefore, often mistaken for neuralgia of the chest, stomach, bowels, lumbago, nephritis, rheumatism, and various other affections; and it was stated in the history given of one case that came under my care, that the child had been treated two years for worms, the treatment continuing some time after the discovery of the curvature, so firm was the belief that worms were the prime and only cause of its illness. A patient will be frequently seized with a paroxysm while playing about the house, when it will throw itself suddenly upon the floor, and refuse to be taken up or handled while the pain continues. When the pain has ceased, the patient will rise and return again to its amusements, as though nothing special had occurred.

This introduction to a sad sequel frequently occurs in the night. A child, which, but a few hours before was put into bed, apparently in perfect health, wakes suddenly out of sleep, in wild agitation, shrieking and crying vociferously. The family is aroused, and the cause of this

sudden alarm carefully sought for, and not unfrequently the solution is found in that very popular theory "an attack of worms;" or, perhaps, a frightful dream. But, in doubt as to which is the real cause, there is administered, both some favourite nostrum as a vermifuge, and a liberal amount of solace. Eventually the pain subsides, the child drops to sleep, and the ever-watchful and anxious mother, full of faith in the infallibility of the remedy, retires again to rest, with the delusive hope that the relief is final and complete. But this is often only the commencement of a series of similar attacks which follow at various intervals, by day as well as night, and, result in protracted sickness and extreme suffering, from which the patient sometimes finds relief only in death. These paroxysms of pain are peculiarly liable to occur whenever the subject first wakes out of sleep; especially so, unless moved and handled with the utmost care and caution, which is not always the case when entrusted entirely to the care of servants and nurses.

Cases occasionally occur in which there is, from the first, but little or no pain experienced, the position of the patient when standing, sitting, or walking furnishing perhaps the only tangible evidence of the existence of the disease. The pain, however, is often so marked and peculiar, as to render the character of the disease nearly unmistakable, even without the appearance of the knuckle to complete the evidence and render it conclusive.

The position and habits of the patient are often such as to attract early attention. He inclines to stoop or lean to one side, and sometimes does both, instinctively thrusting his hands into his pockets, or resting them upon the thighs to give support to the back. He avails himself of whatever object of support may chance to be within his reach upon which to lean, and relieve the affected part from the superincumbent weight of the body. The position is modified somewhat, according to the locality of the disease. When situated in the lumbar region it is, usually, more erect than natural—the shoulders are elevated, and the head thrown backward. If the disease is situated in the cervical region, there is a constant inclination to support the head with the hand placed under the chin, or to throw it backward or to one side, resting it upon the shoulder.

Locomotion, from weakness of the back, is usually performed in a shuffling manner; and not unfrequently does a child, previous to the development of other symptoms, manifest a tendency to trip and fall, for which he is often reprimanded before the cause is understood. A complete loss of power of the lower extremities generally in those cases succeeds this tendency sooner or later, and locomotion for a longer or shorter period is suspended.

Pain and tenderness, upon pressure over the affected region, are very seldom experienced by the patient; but, tapping on it or jarring the spine in any way, is commonly attended with more or less suffering, and a sponge wet in hot or cold water, and applied to it, usually produces pain. Any disagreeable impression imparted suddenly to the back, causing a violent contraction of the spinal muscles, has a similar effect. Placing the patient upon his stomach across a narrow bench or stool, is one of the various methods that may assist, in addition to those above mentioned, in forming a correct diagnosis where doubt in a case exists. In this and various other positions of the body the patient will usually evince more or less suffering, even before any degree of excurvation of the spine is detected.

INTESTINAL OBSTRUCTION: AMUSSAT'S OPERATION: RECOVERY.

Thomas B. Bott, M.D., Surgeon to the Dispensary, Bury, publishes in the *British Medical Journal*, for November 19, 1870, the following case:—

James Walkden, aged 28, brickmaker, in the summer of 1868, whilst climbing a bank, fell back, and the handle of his spade, which was upright in the ground, came into collision with the parts about the anus. He had severe pain at the time, and was driven at once to stool. No blood or anything abnormal was evacuated. He suffered pain in walking for many days. Subsequently, he occasionally had gripings in the lower parts of the abdomen, which caused him to go to stool at once.

Three or four weeks before coming under my care, he noticed that his motions were narrow—not much thicker than a tobacco-pipe stem. He generally went to stool twice a day; but he was rather irregular as to time.

Early in February, 1870, he was seized with violent pain in the bowels. The bowels were not evacuated. He called in the parish surgeon, who gave him purgatives. He had a motion somewhat resembling barm on Saturday, February 12th, 1870. The bowels had not again operated; but the pain increased.

I was called to him on the evening of Thursday, February 17th, 1870. He lay supine. His face was rather shrunken and anxious. He had no sickness now. He suffered from a feeling of tension of the abdominal parietes. The abdomen was very hard to the touch, but not tender on pressure; it was tympanitic, more or less, except in the hypogastric and iliac regions. The left iliac region was especially dull,

swollen, and hard. The rectum was empty. I was unable to reach any stricture or other obstruction with the finger. The parts on the anterior wall of the rectum were very tense—evidently the result of the pressure caused by the liquids and fluids in the bowel. The feeling to the touch was that of a distended bladder; but the introduction of the catheter showed that this viscus was almost empty. At last two movable hard lumps could be felt on the anterior wall and to the right side. I ordered small doses of tincture of hyoscyamus in camphor-water, and directed the abdomen to be fomented with a hot decoction of poppies, and an enema of soup and water to be given.

Feb. 18th. The enema came back *alone*, immediately after being given. I administered enemata myself—first of soap-water, then of turpentine suspended in water by means of the yolk of an egg. No fæces accompanied the expulsion of these clysters.

On the 19th, my father saw the case with me. Bougies of various sizes, down to that of a No. 8 catheter, were introduced. They all passed about six inches, and were arrested opposite the promontory of the sacrum. I could not detect anything like the hard surroundings of stricture; there was simply no passage. Enemata of tepid water, and subsequently of tobacco-water, were given, without a favourable indication being obtained. Dr. Adam Fletcher saw the case with me on the 20th, and endeavoured to pass bougies. The remedies of the previous day were repeated.

On the morning of the 21st, I inflated the rectum with air by means of bellows, and obtained considerable forcing power by this means; but there was no indication of any satisfactory result. He was wasting in the body. The eyeballs were sunken; the features pinched, and expressive of pain and anxiety.

All our means for obtaining a passage *per vias naturales* being exhausted, nothing could now be done to save the man from a painful death but colotomy. He and his friends were anxious that he should live, and consented to have the operation performed. At 3 p.m., therefore, whilst he was under the influence of chloroform, assisted by my father (Mr. Bott), Dr. A. Fletcher, and Mr. John Parks, I performed Amussat's operation. I made an incision over the left loin, according to the directions given by Mr. Erichsen in his book on Surgery. Having cut through the tissues and arrived at the fatty areolar tissue next to the bowel, I found it to bulge somewhat into the wound. It was of a reddish tinge. We made the bowel fast by sutures attached to the upper and lower edges of the wound. On opening the viscus between the sutures, liquid fæces gushed forth to a distance of upwards

of two feet, sometimes accompanied, and sometimes intermitted, by flatus. Altogether about as much as would fill a chamber-pot was evacuated. When the flow ceased, we washed the wound with glycerine of carbolic acid (B. Ph.). We then fastened the edges of the bowel to the integument at the edges of the wound. Whilst doing this, we noticed that the peritoneal surface of the gut was exposed in front. Some serous fluid poured out from the opening in the peritoneum. We brought the edges of the wound together by means of three stitches and a strip or two of plaster; applied a pledget of lint to the wound, and a thicker piece over it; and over all put a bandage. He was removed, while still unconscious, to bed. He was in that state, with a good pulse, at 4.30 p.m., at which time I left him. I ordered him to have a grain of opium every four hours, to keep the bowels quiet.

7.30 p.m. He had severe griping and cutting pain in the hypogastric region. He felt inclined to relieve the bladder, but was unable. The catheter was used, but the bladder was empty. There was considerable oozing of blood from the wound. Some fæces and flatus escaped from the opening in the bowel. The wound was dressed with lint soaked in dilute oil of carbolic acid, in the proportion of one to eight. A bandage was placed round the abdomen. He was ordered to take beef-tea frequently. I gave him thirty drops of laudanum, and ordered a grain of opium to be taken every hour.

Feb. 22nd, 10.30 a.m. He became easy soon after my visit last night, and went to sleep. He passed urine once during the night. Pulse 140, weak. He looked pale and haggard. The tongue was dry in the centre. He had no pain on moderate pressure over the abdomen. The wound was dressed with lint dipped in Condy's fluid. His soiled flannel waistcoat and sheet were removed, without giving him pain.

Feb. 23rd. He had a good night. Pulse 140. The wound was dressed, and clean clothes put on him. At 5 p.m., he was ordered to take one grain of opium three times a day, and one when any pain came on. He was also ordered egg and milk, alternated with beef-tea.

Feb. 28th. The stitches were all undone. The bowel had receded to the bottom of the wound. Dr. A. Fletcher saw the case with me, and suggested that we should prevent the escape of fæces, except when the wound was dressed. We placed a plug of lint in the opening in the bowel, and packed the remainder of the wound with lint dipped in carbolized oil (one in twenty.)

March 1st. There had been no escape of fæces, and he had a good night; I dressed the wound, after removing the plug and allowing the fæces to escape. It looked healthier. He was ordered to have a mixture of laudanum and hydrocyanic acid every four hours.

March 4th. The wound had been dressed twice a day; it was granulating nicely. Pulse 118. The tongue, which had hitherto been dry, furred, and cracked, was much improved. There was a copious flow of liquid fæces to-day. I dressed the wound night and morning, cleaning it first by very dilute Condy's fluid, projected from an elastic bag with a nozzle attached. He took three or four pints of milk daily, besides chicken-broth, beef-tea, and eggs occasionally.

March 6th. He passed *per anum* some hard, buff, feculent substance, preceded by bloody mucus and softened mucous membrane.

On March 10th, he was passing large stools through the wound twice a day.

On April 4th, he passed *per anum* a stool four inches long and half an inch in diameter, of a light yellow colour—in fact, of the same colour as the fæces passing by the wound. From its appearance, it was evident that the fæcal material had passed in very small pieces through the stricture, and accumulated in the rectum to the size mentioned. It was accompanied by a considerable amount of mucus. The granulations of the wound were on a level with the surface. As the weather was fine, he spent some hours of the mid-day in the neighbouring fields. He passed flatus *per anum* occasionally—about once a week.

April 21st. He passed a stool *per anum*.

May 20th. He passed some blood *per anum*. He had been wearing for some time, in the hole communicating with the bowel, a gutta-percha plug about the thickness of the little finger, with a broad flattish disk about three inches by two at its external extremity. It was mushroom-shaped, and was kept in its place by a bandage. It effectually prevented the escape of fæces for twelve hours. If a longer time elapsed before the wound was dressed, the action of the bowels forced the thin fæces by the sides of the plug to the surface.

June 3rd. He passed small quantities of yellowish mucus, tinged slightly externally with blood, about once in from fourteen to twenty-one days. I examined the rectum with the finger. I could reach no stricture. The hard rounded tumors on the anterior wall had gone. No hardness or thickening of the wall of the rectum could be detected. He had occasional griping pains in the left iliac region.

On July 30th, he passed *per anum* a reddish yellow mass three inches by one inch and one-tenth in dimensions, somewhat resembling a piece of softened muscle. A thin slice under the microscope appeared to consist of blood and mucus, with a few crystals.

October 1st. He had had no evacuation *per anum* since the last report.

Remarks.—This case has been quite as successful as such cases can generally be expected to be. The man's life is prolonged for an indefinite period. The most potent prejudice, both with patient and surgeon, against this operation, is a fear lest the former should, if the operation succeed, become a nuisance both to himself and to his neighbours. This man does not seem to be an annoyance either to himself or to others. He has very good control over the evacuation of the contents of the intestine; except that, if he do not allow their escape twice in twenty-four hours, he feels uncomfortable; there is a little griping and some fluid oozes out by the side of the plug. Sometimes, as during a recent attack of diarrhœa, it is necessary to remove the plug oftener. He seems happy, and is gaining flesh. With the experience of this case before me, I would certainly perform colotomy if similar conditions, or any conditions in which this operation was the only means of saving the life of the patient, should present themselves. The operation is no more difficult than that for strangulated hernia; and, if the peritoneum is not injured, it is surely not more dangerous. In this case, although the peritoneal sac was opened, and although, as the escape of serous fluid showed, there was some inflammation of the peritoneum prior to the operation, yet no serious disturbance followed. The irritation caused by the exposure of a mucous surface to the air was well allayed in this case by the administration of hydrocyanic acid.

If I had to perform the operation again, I would, before making an incision, draw a line with pen and ink on the skin parallel with the spine, and halfway between the spine and the left anterior superior iliac spinous process. This would be a guide to the locality of the colon, which I should expect to find behind it and within an inch of it.

Medicine.

TREATMENT OF CHOREA BY ETHER SPRAY TO THE SPINE.

Dr. John Rose (*Lancet*, December 10, 1870, p. 813) reports three cases of rapid recovery from obstinate chorea by the anæsthetic ether spray. It was applied along the spine for four or five minutes at each time, and effected a cure after fifteen sittings. In obstinate cases he proposes to shave the occiput, and apply the spray there as well as to the spine.

A NEW TEST FOR HYSTERIA.

A French work just issued by Dr. Chairon, chief medical officer to the Vesinet Asylum, entitled "Clinical Studies on Hysteria," announces the discovery by him of a new pathognomic sign of hysteria, which, should it be confirmed by experience, will prove to be a valuable contribution to medicine. Since Dr. Chairon has become connected with the Institution he has passed under view 26,000 female patients, amongst whom were a great many cases of hysteria. He says that he has ascertained that in every one of them the commencement of the affection has been marked by a special sign—insensibility of the epiglottis.

The determination of this symptom, which is constantly present, is very simple. It is sufficient to introduce gently the finger into the mouth, so as not to frighten the patient, and place it on the base of the tongue. It will be found that the epiglottis may be touched, displaced and scratched with the nail without producing the least regurgitation. When this system exists there will be found invariably a congestion of one or both ovaries, usually of the left.

Singular as this proposition is, the author proceeds to prove its exactitude, and has with that object, quoted a great number of cases collected at Vesinet.

MAMMARY ABSCESS AND ITS REMEDY.

By Joseph R. Beck, M.D., Lancaster, Ohio.

Among all the troubles incident to, or connected with, child-bearing there is none so prolific of bad results, both to the medical attendant and to the parturient patient, as a mammary abscess. The occurrence of such an abscess in his patient has lost many a physician his reputation in a whole family, and very frequently not only in the immediate family of the sufferer, but even in the whole of a wealthy and influential connection. The attention of the profession cannot be too strongly directed to this fact, that the occurrence of a mammary abscess in a patient recently delivered, and still under observation, is generally attributed to the neglect of the physician in charge. This may appear to be a wholesale accusation, but my opinion is based upon close observation, and seems to me to be fully sustained by the facts in the case.

It is not the purpose of this article to treat of the symptoms of this disorder, nor to enter upon a discussion as to the relative merits of different plans of treatment, but simply to give the views of *one* observer upon the mode of effectually preventing any abscess of the mammary gland from troubling either the patient or the obstetrician.

The symptoms of inflammation of the gland under consideration are well known to the profession. Whenever these arise, every effort should be made to arrest the secretion of milk; this will relieve the mother, and not necessarily interfere with the well-being of the child, which, if proper care be taken of it, will generally be found to thrive upon good and pure cow's milk, with the occasional addition of a small quantity of lime-water.

The treatment, therefore, is to be begun as soon as there are any symptoms that mammary abscess is likely to occur. I have found the following prescription of service: Alcoholic Extract of Belladonna, four drachms; Glycerine a sufficient quantity to mix them to the consistence of a moderately thin paste. This is to be spread in a medium thick layer with a spatula, over and upon both mammary glands, from the sternum to the axilla. Cover with a cloth dipped in olive-oil, and this in turn with oiled silk. Allow the dressing to remain undisturbed during a variable period of from two to three or four weeks, inasmuch as it can be worn by the patient for any length of time without inconvenience.

The argument in the case is directed, of course, to threatening abscesses; but all will at once recognize the appropriateness of the treatment in cases of still-born children, where it is certainly desirable to arrest the secretion of the milk at once. In these cases apply the remedy within an hour or two after the birth of the child. I have never known this treatment to fail of its desired effects, where it was used in time.—*Medical Times, Philadelphia.*

RAW BEEF IN ANÆMIA.

James S. Bailey, M.D., Albany, N.Y., writes: In the anæmia of young girls just verging into womanhood, there is nothing that so speedily relieves this condition as lean raw beef.

There is usually an aversion to any food, at this period, of a solid nature; but upon the contrary, a craving for pastry, pickles and knick-nacks, &c.

Upon many occasions I have insisted strenuously upon a change in the mode of living in this respect, and placed patients, if not upon raw beef, upon beef underdone, for a diet, and have invariably experienced marked improvement. It imparts tone to the organs of digestion; by it the blood made is improved in quality.

I am quite certain, in tardy menstruation, if instead of administering ferruginous mixtures, should the diet alone be changed as suggested, and the meals served regularly, with an abundance of exercise in the

open air, many females, instead of dying prematurely, would be restored to usefulness.

Many women acquire the habit of abstaining from food at breakfast, and soon, if food is taken, the stomach rebels. Experience has proved that the healthy stomach requires a supply of food every six hours during wakefulness. Any departure from this established law produces derangement in digestion, and the system must necessarily suffer the penalty for this infringement upon the laws of health.

Midwifery.

LEAVING OPEN THE ABDOMINAL CAVITY AFTER OPERATION.

In the proceedings of the Gynæcological Society of Boston, reported in the April number of the Society's Journal, there is a case of extirpation of the uterus, in which this plan was tried.

The operation was performed before the war, by the late Dr. Baker, of Knoxville, assisted by Dr. Boyd. The patient recovered, and still remains well. A portion of the abdominal wound was purposely left open after the operation, freely exposing the peritoneal cavity to the external atmosphere; it was believed by the surgeons in charge that to this fact was owing the patient's recovery. The colored people in Tennessee, when spaying sows, leave the abdominal cavity open after the operation, and it is said that the mortality is very much less than when the cavity is closed.

This is the only case in which surgeons have ventured on such a proceeding, and there will probably be great hesitation in following the example, though the Society had little to say against it. The great aim of ovariotomists has hitherto been, in every way possible, whether by closely set sutures, bandaging, or carbolic acid paste, to hermetically seal the external wound.

In dealing with the abdominal cavity. however, Dr. Storer, in remarking on the above case, stated he had often questioned whether it were well to close in so thoroughly, what under other circumstances, would seem to afford the surest invitation to peritonitis and septicæmia.

He added that there could be no doubt that exposure of the peritoneum to the atmospheric air for a long time might be permitted without subsequent ill-effect. He had frequently been compelled to do this during a period of from one to four hours, for the purpose of providing against hœmorrhage from broken adhesions, during abdominal sections, and he thought it was well worthy of research whether Dr. Baker's course was not based upon a wise common sense.

Materia Medica and Chemistry.

THE ACTION OF MERCURY ON THE LIVER.

In a paper read before the Medico-Chirurgical Society of Edinburgh (*Edin. Med. Jour.*, April, 1871) Dr. Thos. R. Fraser reviews the whole subject of the cholagogue action of mercury. After considering various doctrines as to the nature of this action, he says that all that has been actually demonstrated is the increased flow of bile after the administration of mercury. Dr. Fraser believes that this is supported by the following arguments:

1. Certain characters of the alvine dejections imply an absence or diminution of bile, and these characters are present in various diseases.

2. In many of these diseases mercury restores the alvine dejections to their normal condition, or produces in them, as well as in normal dejections, certain characteristic appearances.

3. The characteristic appearances caused in the alvine dejections by the administration of mercury are due to the presence of bile constituents.

The appearances caused by mercury cannot be due, as suggested by Murchison, to the merely purgative action of the drug, whereby the intestinal contents are so rapidly carried to the rectum that the modification and absorption of their bile constituents which occur in normal digestion are prevented, because a similar effect is not found to follow the use of other purgatives, and because, in constipation, where the passage of the intestinal contents is undoubtedly retarded, there need not be clay-colored stools, while on the other hand, in diarrhœa the stools may be pale or clay-colored.

These views are opposed to those recently promulgated by the Edinburgh committee, and Dr. Fraser is disposed to believe that, in the vivisections made by the committee, several nerves ramifying in the substance of the common duct, and in the surrounding tissues, were necessarily divided, and that it may be that by these nerves an influence is conveyed to the liver by the action of mercury.

ON TINCTURE OF HYOSCYAMUS.

By M. Donovan, Esq.

Some years since I published, through the medium of the Medical Press, an account of trials made on myself and others, with a view to discover what dose of tincture of hyoscyamus should be given in order

to produce its sedative effects. The experiment was made on several persons, beginning with a drachm dose, increasing it to six drachms, and in my own case to one ounce, of the tincture of the *Dublin Pharmacopœia*. In no case were any effects observed beyond dryness of the throat and fauces. The experiments were made with tinctures prepared from the dried leaves of garden-grown plants, from wild plants collected in a mountainous district of North-Wales, and from the same leaves dried and undried.

I was under the impression that some of the plants employed in making the tinctures on which I experimented were in the second year of their growth, but the trials now to be described have convinced me that none of them could have been more than one year old. At that time I was not acquainted with the means which I have since discovered of testing the age of the plant.

I satisfied myself by these experiments that tincture of hyoscyamus prepared, as I believe it generally is in this country, from leaves of one year's growth are all but powerless. I was strengthened in this opinion by finding that M. Hertz has given upwards of fifteen grains of the extract, most probably made from the plant in its first year, without any sensible effect.

Mr. Houlton had long before affirmed the inertness of the one year old plant, and the activity of that of two years' old.

In order to come to some determination on this subject I adopted means of procuring a tincture certainly made from the latter, and from trials with it soon convinced myself that it was an article of very different value from a tincture of the one year old plant, and that all my former experiments must have been made with the latter, although I was led to believe that, in some of them, the plant of two years' growth had been used.

My first trial was on myself. I took one drachm, and for an hour or two felt no effect beyond dryness of the mouth. On a subsequent occasion I took two drachms, and in two hours had proof that I had taken a sufficiency. My sensations were indescribable: one was a feeling of uncertainty of my steps in walking, although they were really quite steady, and a slight sensation of giddiness. This trial convinced me that I had taken as full a dose as prudence would permit. To a lady who suffered from headache I gave, at her own request, one drachm of this tincture. In about two hours she felt so overcome by sleepiness that she could scarcely keep her eyes open; the headache was, however, greatly relieved. On another occasion she took a similar dose, and,

being in bed, she soon fell into a "delightful sleep," and, on awaking, found that the headache was almost gone; but she complained of dryness of the fauces and throat, although on the first occasion she did not experience either of these effects. Some months after the same lady suffered from headache, and did not receive any benefit from a similar dose; nor did another person experience any relief from toothache nor any other effect beyond slight dryness of the fauces, which soon passed off.

Convinced by the foregoing considerations that the medicinal properties of hyoscyamus reside exclusively in the plant of two years old, and that the plant of one year's growth is therefore useless, I sought to discover an easy test by which the age of the plant from which a given tincture had been prepared could be determined. The following has at least the advantage of simplicity: add a little of the tincture to a glass of water; if the mixture become slightly milky, the tincture was made from a two years' old plant; if it remain transparent, the plant was in its first year.

The *British Pharmacopœia* gives no information as to what shall be the age of the hyoscyamus from which the tincture is to be made; it is, therefore, a matter of chance whether it will have any effect or be powerless. Given in the dose of twenty or thirty drops, as is sometimes done, it is hard to believe it can have any effect in either case.—*Dublin Medical Press.*

ICE PER RECTUM IN CHLOROFORM NARCOSIS.

Dr. Baillie says (*L'Opinion Médicale*) that nothing is better in the narcosis of Chloroform than the introduction of a morsel of ice into the rectum. A slight pressure on the sphincter relaxes it, the ice slips in, and immediately a deep inspiration is produced. This is the prelude to natural respiration and a restoration of the cardiac functions. He also recommends the remedy being tried on children born apparently dead.

ARNICA IN PNEUMONIA.

Mr. C. C. Balding recommends strongly (*London Lancet*) the use of arnica (min. x strong tincture every two or three hours) in pneumonia. The pulse should be reduced by it to 60 or 70, and descends at times as low as 40 per minute. The relief is immediate and marked.

IODIDE OF IRON AS A REMEDY IN INCONTINENCE OF URINE.

In the *Medical Times and Gazette*, Dr. John Barclay, after a very long list of the "constitutional, moral, mechanical, and specific" remedies and methods of treatment in this disease, says, "I have tried several of the above remedies, and before I stumbled upon the syrup of the iodide of iron, found atropia or belladonna by far the most certain and trustworthy. Tincture of iron is much employed, but after frequent and persevering trials with it I have been always disappointed. During the past two and a-half years twenty cases of incontinence of urine have been treated by me. The medicine invariably prescribed has been syrup of the iodide of iron alone, and, so far as I know, there have been no failures. I have notes of all the cases, but only eleven in the completed state, since the other nine, who came from a distance, did not return to say what was the result. The probability is that they were cured, otherwise they would not have been got rid of so easily. At all events, the eleven who did report themselves, or who were continually under observation, were all cured, the improvement in several of the cases following so closely upon the administration of the remedy, as to leave no doubt that the good effect was due to the syrup. Dr. Manson, of Banff, and Dr. Smith, of Kinnairdy, have both found the medicine equally satisfactory. Dr. Smith says that he tried it, only a fortnight ago, on a boy, who for a long time had been a sad martyr both to diurnal and nocturnal incontinence and who had resisted all other remedies, but who, upon giving him the iodide, was in two or three days almost well." The doses given were from fifteen minims to half a fluidrachm three times a day, according to age.

SOLUTION OF SANTONIN.

Dr. John Harley (*The Practitioner*, Feb. 1871) gives the following formula for a solution of this ordinarily so insoluble remedy:

R Santonini, in pulvere, gr. xij
Sodæ bicarbonatis, gr. xx;
Aquæ destillatæ, oz. iij.

Put the soda and water into a flask, keep the fluid near the boiling point, adding, as it disappears, about two grains of the santonin at a time, until the whole is dissolved. Solution is effected in about half an hour, during which time the water is reduced to oz. ij. If need be, reduce by boiling to this bulk, when oz. i will contain a full dose,—six grains of santonin. If an alkaline reaction be objectionable, neutralize with acetic acid.

Canada Medical Journal.

MONTREAL, JUNE, 1871.

THE HOWARD SYSTEM OF VENTILATION.

The subject of ventilation of public buildings has long engaged the attention of sanitarians; and of the various methods proposed, all present some objectionable point, so that perfection has not, so far, crowned the efforts of those who have devoted their energies in this direction.

Dr. Henry Howard of St. Johns, the worthy superintendent of the Provincial Lunatic Asylum, of the Province of Quebec, has been forced to enter the lists in sheer self-defence. A more wretched building does not exist on this Continent, possessing the name of a lunatic asylum, than the institution over which he is forced to preside. The building was a few years ago used as a court-house, although we believe it was not originally built for that purpose. At the time of the Trent difficulty, when the Imperial Government in their wisdom sent an additional military force to this country, the old barrack at St. Johns, which had been selected by the Canadian Government as a temporary lunatic asylum, was re-occupied for military purposes by the Imperial authorities, Dr. Howard was forced to relinquish that site, and the present building which he occupies was temporarily given for his use, in lieu of the more extensive and commodious buildings known as the St. Johns barracks. We have repeatedly entered a strong protest against the present system, as more expensive than would be the erection of a new building; expensive in every respect, as it is utterly impossible to adapt such a building for the purposes of a lunatic asylum, besides which the constant outlay on an old building, the alterations necessary, the patching and repairing, in the long run costs more than a new establishment. But what should weigh more in the counsels of those whose business it is to provide such establishments is the fact that there is no chance of benefit being derived by the unfortunates confined there. As to the scientific treatment of the insane under such circumstances, it is out of the question. There is, therefore, every reason on the score of economy, if on no other grounds, for a change in the present system. The sooner the Government of Quebec adopt the idea of

change in this respect, the better for the country at large, and the sooner will be removed the stigma of possessing a building in which afflicted human beings are housed which is hardly suitable for animals of the porcine species.

We say that Dr. Howard in sheer self-defence was forced to seek some efficient means of improving the air of his Asylum. From personal inspection we can bear testimony to the success of his efforts. When some five years since we visited his Asylum, we were simply horrified with the condition of things. Improvement certainly has followed on his exertions, and we have reason to know that these experiments have been attended with considerable outlay. We presume that the expense of these various trials or experiments have been borne by himself, as we all know that in Government enterprises great care is adopted to prevent unnecessary outlay, every farthing has to be satisfactorily accounted for, and the expenditure of large sums of money for mere experimental purposes would not be allowed. We visited the Asylum at St. Johns in April last, and rooms and dormitories which were in 1865 pestiferous, were in 1871 sweet and endurable. No more positive evidence, therefore, can be adduced of the success of Dr. Howard's method of ventilation than the results observed in his own Asylum.

Dr. Howard's system consists in the admission of fresh air at the upper part of a room; the air passes along the ceiling and falls as spray to the floor; in its transit it must to a certain extent mix with the foul air of the apartment, but only to a slight degree, while the latter being of higher temperature, is floated to the upper strata, and is carried off off by an upward shaft at the ceiling. This shaft is in connection with an air-tight receiver, having within it a fan of four blades; this is kept constantly revolving by means of a clock-work arrangement and weight; to the receiver is attached a discharge tube, which passes out out above the roof of the building. The revolution of the fan produces a vacuum, and must draw the air through the tube which opens at the ceiling of the apartment to be ventilated; this air is then forced through the discharge tube, and is rapidly diffused or carried off by the wind.

From experiments instituted by Dr. Howard, it would appear that the largest quantity of foul air in a room twenty feet high, when there is defective ventilation, is about two feet from the ceiling; a room of the same height yielded a large proportion of foul air ten feet from the floor, but there was almost perfect absence of impurities at the ceiling and at the floor. From these facts it would appear that a discharge tube would be more efficient if opened at two feet from the ceiling in

an apartment of twenty feet in height, and one foot in a room of ten feet altitude.

We need hardly allude to the urgency of ventilation. To secure a healthful condition of the body, constant change of the air of an apartment is an absolute necessity. The emanations from our bodies are such as to render any apartment in time highly poisonous, so much so, as to preclude the continuance of life. Decay is constantly going on in our bodies, and an arrest of these changes is inconsistent with the continuance of life. The problem consists in getting rid of these effete particles after they have been separated from the living mass. Hence the urgency of adopting some rational system of ventilation. More especially is this urgently necessary in public buildings, schools, gaols, lunatic asylums, churches, and other buildings where large numbers of persons are met together.

The Court.House of our City has been long known to be very deficient in ventilation. So much so that on more than one occasion the Judges on the Bench have been obliged to relinquish their official duties through indisposition. The Quebec Government have wisely determined to endeavour to improve the present state of that building, and we believe that Dr. Howard has in hand the contemplated improvement. If he succeeds as well as he has in the Lunatic Asylum at St. Johns, it will go far to secure the confidence of the public in his invention, and will, we trust, lead to the adoption by other ill-ventilated public buildings throughout the country of the Howard system of ventilation.

MEDICAL COMFORTS FOR THE MILITIA.

Many of our readers are aware that the Government of Canada deemed it expedient to form camps in different parts of the Dominion, and a special sum was voted for militia purposes. We believe that as a rule the experiment has succeeded, and although it is hard to please everybody, yet the larger mass of the volunteers were satisfied, and convinced that everything was done to make them comfortable while under canvas. We speak from personal knowledge, as we ourselves were on duty at the camp at Laprairie. The object we have in writing is to call attention to the Medical Field Companion, or whatever it may be called, which was issued to each Regiment. In our opinion it contained all that is requisite for service of the kind undertaken by the volunteers.

We have heard of some grumbling, and one daily paper compared it to a spice box, and styled the gentleman who was entrusted with the

getting up of the box, the Old Woman of Montreal. This as a *jeu d'esprit* is all very well, but it only shows the utter ignorance of the writer.

According to the regulations issued by authority, every volunteer before going into the field should be subjected to medical inspection. The object of this being to reject all who are physically incapable of bearing the fatigue of a campaign, and who would be an encumbrance to an army on the march. Another requirement being to send into hospital all men who may be taken seriously ill, and who would be necessarily neglected if allowed to remain in camp.

With regard to the contents of the "Medical Spice Box," they consist of those articles which certainly have been in the Pharmacopœia from time immemorial, but are all that are requisite for sudden attacks of illness. Furthermore, the Medical Spice Box is more complete than the "Medical Field Companion" used by the British army in the field, and we think that those members of the profession who are desirous of having modern inventions added, such as corn plasters, toilet powder, and such like articles, forget that they would encumber their baggage with useless material, and run the risk of becoming the laughing stock of many hardy old veterans who are to be found attached to all our volunteer battalions. We certainly think that 'the Old Woman of Montreal' deserves the thanks of the members of the medical staff of the militia, as perhaps it is not generally known that that gentleman was instructed to use great economy, and get up a cheap but useful box.

DEATHS OF PROFESSORS WAGNER AND NIEMEYER.

From the *British Medical Journal* we learn that among the victims whom the medical profession has furnished in connection with the recent Franco-German war, have been two men of more than common note,—Professor Albrecht Wagner of Königsberg, who died at Dole on February 15, and Professor Felix von Niemeyer of Tübingen, who has died lately at Nancy. The cause of death in both cases was typhoid fever, contracted in the discharge of their duty. Dr. Wagner was well and favourably known in Germany for his works on Resection and Regeneration of Bone (translated a few years ago by the New Sydenham Society), on Hydrophobia, Diabetes in connection with Carbuncle, Resection of Nerves, etc. The name of Felix von Niemeyer is well known among us through the translation of his excellent *Text-Book of Practical Medicine*, and his *Lectures on Phthisis*.

A MOVE IN THE RIGHT DIRECTION.

Under this head the *Boston Medical and Surgical Journal* has the following excellent remarks:

"In our own practice we are constantly cognizant of cases of malpractice on the part of apothecaries who overstep the bounds of their legitimate business. That a pharmacist occupies a corner store in a crowded locality, and enjoys a local repute as a 'Doctor,' is no reason that he should treat venereal diseases, surgical injuries, and supposed constipation, or prescribe for 'the chiel who is a little ailing,' but may be on the threshold of serious disease. It is true, the patient, who may have but little money in his pocket, gets his advice for the price of the medicine administered, but the remedy is often dearly paid for by aggravation of disease, when a moderate fee to our younger brethren would secure sound advice and a satisfactory cure.

"We cannot help calling the attention of our friends the apothecaries to a sign we have just seen conspicuously posted in the shop of one of their own number. It is not for our sakes alone, but for their own good, that we advise them also to set up as a public notice,—'We are pharmacists, but not physicians; we dispense medicines, but do not prescribe for diseases;' and when they have done so, we trust they will keep to their own legitimate calling and allow physicians to *treat* diseases."

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To the Editors of the Canada Medical Journal.

GENTLEMEN,—In the brief report contained in the May number of the *Canada Medical Journal*, of the few observations upon a case of pleurisy and miliary tubercle made by me at a late meeting of the Medico-Chirurgical Society, I am unintentionally represented as attributing views to the late Professor Niemeyer which he would disclaim could he read the report, and as holding an opinion upon the great pathological question discussed that I did not advance. The tenor of my remarks was as follows: "The point of greatest interest to myself in this case is the combination of pleurisy with effusion and miliary tubercle of the lung and kidneys in an old man, and the relation of the lesions to each other. Niemeyer and his school would maintain that the pulmonary tubercle was secondary to and a consequence of the pleurisy; but I did not think that that doctrine had been proved as yet, and I was rather disposed to believe that the tubercle preceded the inflammation of the pleura, or at most that the constitutional deterioration and local disturbance of nutrition incident to the pleurisy had evoked a pre-existing tendency to tuberculosis. It was a question of great scientific interest, which I was not prepared then to discuss, but which I submitted for the consideration of the Society." The patient took *one* of Addison's pills, not "two" twice a-day—and thirty-five or forty ounces of fluid, not "about five ounces," were removed from the right pleural cavity after death.

Your obedient servant,

R. P. HOWARD, M.D.

Beaver Hall Hill, 18th July, 1871.

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